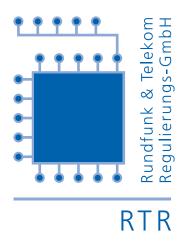
## **RTR** Telekom Monitor

## **Annual Review 2013**



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### **Preface**

#### Dear readers.

The RTR Telecom Monitor, which has been published quarterly for several years now, explains the latest data and trends on the Austrian telecommunications markets. The content of the regular quarterly RTR Telecom Monitor editions is contained in this Annual Review in Sections 1 to 6. Section 7 contains international comparisons. The data used in these comparisons were mostly derived from the European Commission's Digital Agenda Scoreboard. Section 8 deals with a selection of internationally accepted technology indices and highlights Austria's performance in these international comparisons.

#### Communications Survey Ordinance (KEV)

The rationale for the data survey on which the quarterly issues of the RTR Telecom Monitor are based is the Communications Survey Ordinance (KEV), Federal Law Gazette II No. 365/2004, which came into force on 1 October 2004. RTR is obliged by this Ordinance to carry out statistical surveys of communications markets on a quarterly basis, compile the statistics and publish them.

With effect from April 2013 the KEV was last amended; prior to that, in March 2012, there had been a major amendment, replacing the previous KEV dating from 2004. The amendment had become necessary because in such a highly dynamic field as telecommunications a great deal has happened both on the markets and in the technology and this fact has had to be properly reflected. In addition, RTR was keen to standardise the type of questions asked in the operator surveys (BAF) and the KEV. To do this it was necessary to bring terms and definition into line with those from the operator surveys.

#### **Data collection**

In order to reduce the burden on the individual operators, RTR specified the sample in line with Art. 4 Par. 1 KEV in such a way that, on the basis of the statistical population of the most recent market analyses, a market share of at least 90% is covered for each cluster (fixed network, leased lines, mobile communications and broadband). From this sample, RTR extrapolates the data for the statistical population.

#### Statistical analyses and data

The charts in the RTR Telecom Monitor contain for the most part rounded values. The exact values can be found in tables at the end of each section. The retail revenues referred to are always net revenues. Due to occasional post-hoc data corrections, the values in the charts presented here may differ slightly from the information provided in earlier issues of the RTR Telecom Monitor. Where major deviations (> 5%) arise in individual data values, a comment to this effect is provided for the figure in question.

We sincerely hope that this publication provides you with interesting and informative reading.

Johannes Gungl

**CEO Telecommunications and Postal Services** 

Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR)

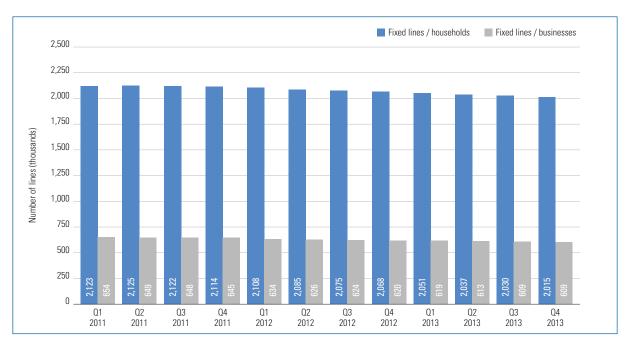
PREFACE 5

## 1 | Fixed network



## **Fixed lines**

#### NUMBER OF FIXED LINES IN CONTINUOUS DECLINE

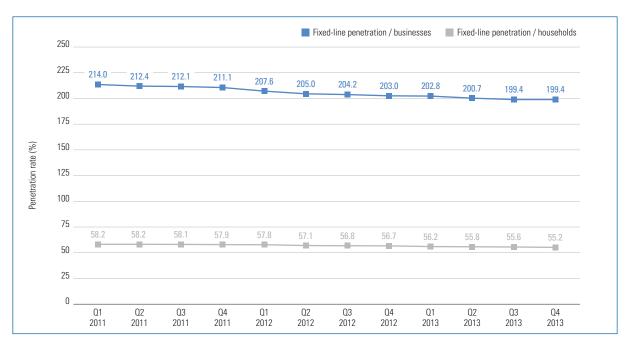


The chart above shows the total number of fixed telephone lines in households and businesses, regardless of the infrastructure on which those lines are based (e.g. copper-wire pairs, coaxial cable or optical fibre).

- At the end of 2013, the total number of fixed lines in Austria was 2.6 million, 2.0 million in households and about 609,000 in businesses. Compared with the end of 2012, this is a decline of about 2.3% (or some 62,600 lines).
- At 2.6%, the decline in households was slightly more significant than that in businesses (down 1.8%) in the course of the year.

## Fixed-line penetration

#### **➡ FIXED-LINE PENETRATION CONTINUES TO DECLINE SLIGHTLY**



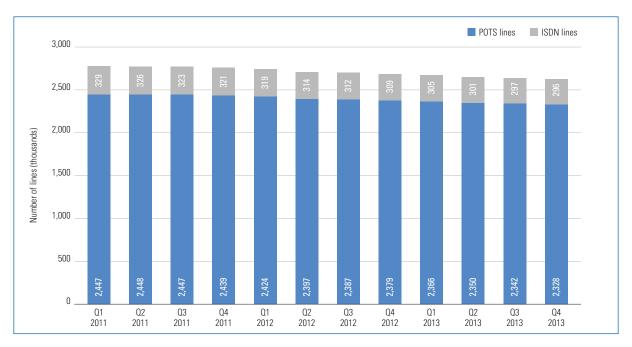
Source: RTR, Statistics Austria (number of households and businesses)

The chart shows fixed-line penetration rates among households and businesses. The higher penetration rate for businesses is due to the - in most cases - greater number of fixed lines per business and is therefore not strictly comparable with that of households.

- In line with the number of fixed lines, fixed-line penetration also declined.
- At the end of 2013, 55.2% of households in Austria had a fixed telephone line, compared with 56.7% at the end of 2012.
- Year on year, fixed-line penetration of businesses also declined slightly to 199.4% in Q4 2013.

## Development of fixed lines

#### **⇒** FIXED LINES SHOW CONTINUED DOWNWARD TREND



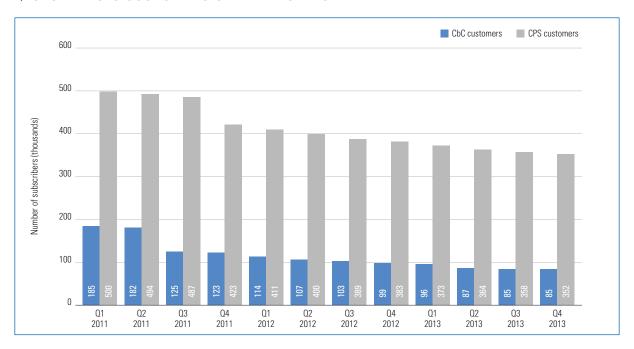
A POTS ("plain old telephone service") line is a conventional telephone line as found in many households. An ISDN line provides two channels so that two calls can be made at the same time. In the case of multi-ISDN lines, which are almost exclusively used by businesses, more than two channels are available at the same time.

The chart shows the number of fixed lines in Austria, broken down by type (POTS and ISDN). Multi-ISDN lines cannot be shown in the chart because the figure is too small.

- At the end of 2013, 88.3% of a total of 2.6 million fixed lines were conventional POTS lines (2.3 million). In addition, there were some 296,000 ISDN lines and some 14,000 multi-ISDN lines.
- 23.4% of all fixed lines were voice-over-broadband lines, i.e. about 618,000 lines. For only 1.1% of the lines radio transmission or fixed wireless access (FWA) was used.

## Carrier pre-selection and call-by-call customers

#### **⇒** CBC AND CPS CUSTOMERS ON THE DECREASE

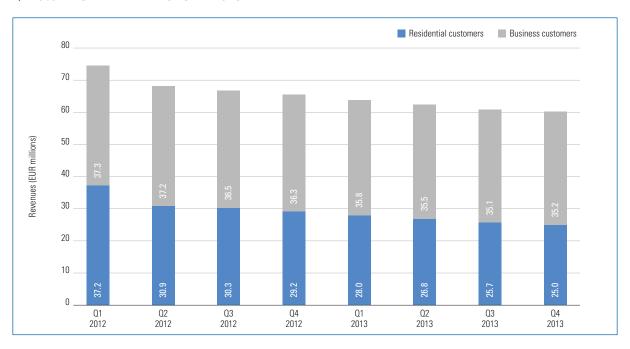


The chart shows the number of customers with lines on which carrier pre-selection (CPS) is used and the number of call-by-call (CbC) customers who used CbC at least once in each quarter (see Glossary).

- At the end of December 2013, some 352,000 customers used carrier pre-selection and about 85,000 customers used call-by-call. Thus, 13.3% of the fixed-network customers used carrier pre-selection, while 3.2% of the fixed-line customers used call-by-call.
- Year on year, the number of call-by-call customers was down by 14.6% in Q4 2013; the number of lines with carrier pre-selection decreased by 8.1%. Hence, the number of CbC and CPS customers declined more significantly than the number of fixed lines over the course of the year.

## Retail revenues from access services

#### **→ 10% DROP IN REVENUES IN 2013**



Retail revenues from access services include base fees and setup charges.

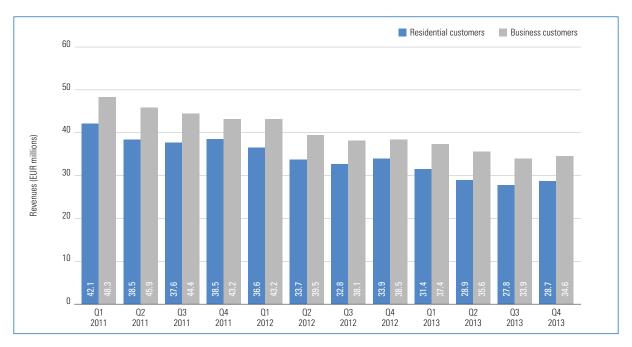
Base fees refer to revenues collected at regular intervals that do not depend on the actual use of the subscriber line. They also include revenues from monthly flat rates (e.g. packages which include a certain number of minutes), but such rates do not play a significant role in fixed-network services. Not included are tariffs referred to as "optional tariffs" and "flat-rate tariffs" and revenues from products bundled with broadband.

Setup charges comprise revenues generated from the setup, transfer and termination of a fixed telephone line.

- In 2013, total revenues of EUR 247.1 million were generated by access services, which is 10.2% less than in 2012.
- EUR 105.5 million accounted for residential customers, EUR 141.6 million for business customers.
- Revenues from access services fell continuously by 2 to 3% per quarter in 2013, the decline for residential customers (down 17.4% of annual revenues) being more significant than that of business customers (down 3.9%) in the course of the year.

## Retail revenues from carrier services 1/2

#### **CONSTANT DECREASE IN REVENUES FROM CARRIER SERVICES**



Retail revenues from carrier services depend on the number of call minutes used, i.e. the higher the number of outgoing call minutes, the higher the bill.

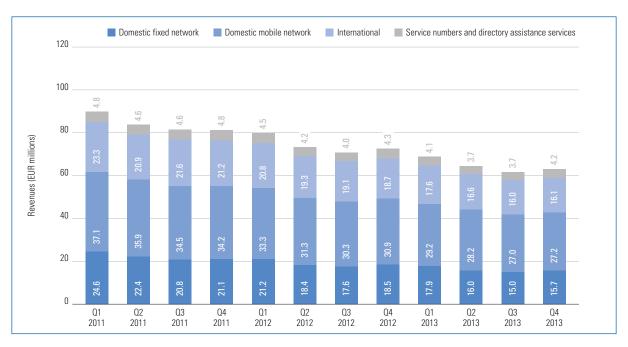
The revenues shown above include the retail fees charged by operators for calls to the domestic fixed network, domestic mobile networks, international destinations and service numbers. Revenues from fixed monthly flat rates (e.g. packages including a certain number of minutes) are not included in the figures above.\*

- Revenues from carrier services totalled EUR 258.3 million in 2013, which is 12.8% less than in the previous year and, at 23.7%, down on 2011 by almost one fourth.
- EUR 116.8 million accounted for residential customers (down 14.7% compared with 2012), EUR 141.5 million for business customers (down 11.2%).
- The share of revenues from residential customers in revenues from carrier services was 46.9% in Q4 2012, dropping to 45.3% in Q4 2013.

<sup>\*</sup>From Q1 2012 onwards revenues from online services are no longer included in the survey because they are negligible. Until Q4 2011 they are included in the revenues.

## Retail revenues from carrier services 2/2

#### **➡ REVENUES FROM CALLS TO ALL DESTINATIONS DECLINING**



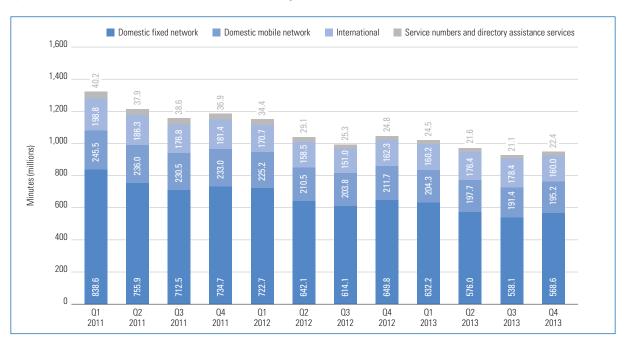
The chart above shows the revenues earned by operators from calls from fixed networks to various destinations (national fixed network, national mobile networks, international destinations and service numbers). Revenues from fixed monthly flat rates (e.g. packages including a certain number of minutes) are not included in the figures above.\*

- In 2013, calls to the domestic mobile network generated revenues from carrier service charges of EUR 111.6 million, while international calls generated EUR 66.4 million. Revenues from calls to the domestic fixed network ranked third (EUR 64.5 million). Calls to service numbers and directory assistance services generated EUR 15.7 million.
- Carrier service charges for international calls and calls to the domestic fixed network declined most significantly (down by 14.7% and 14.6%, respectively, compared with 2012).
- Year-on-year revenues from calls to the mobile network dropped by 11.3%.
- Revenues from carrier services to service numbers and directory assistance services were down by 8.0%.

<sup>\*</sup>Revenues from online services are no longer surveyed because they are negligible and are therefore not shown in the chart. Values up to Q4 2011 can be found in the table at the end of the section.

## Call minutes on the retail market

#### **▶ INCREASE IN INTERNATIONAL MINUTES, DROP IN TOTAL CALL MINUTES**



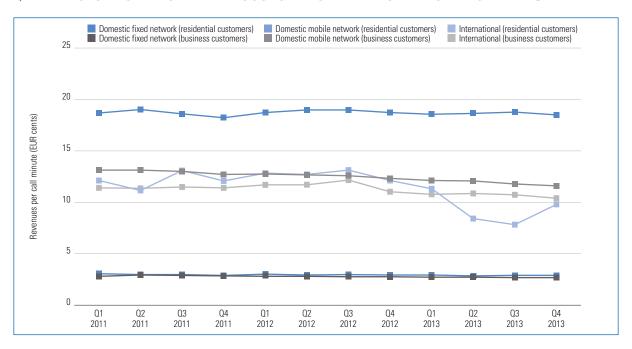
The figure above shows the number of real minutes (see Glossary) in the fixed network, broken down by destination.\*

- In 2013, total call minutes in the fixed network numbered 3.868 billion, i.e. 8.7% down on 2012 and 21.7% down on 2011.
- Calls to the domestic fixed network accounted for the largest proportion: in the course of the year calls from the fixed network to other fixed-network customers totalled 2.315 billion minutes.
- Calls from the fixed network to the domestic mobile network totalled 788.6 million minutes, international calls amounted to 674.9 million minutes. Calls to service numbers and directory assistances services totalled 89.5 million minutes in 2013.
- An increase can be seen only in international calls: in 2013, there were 5.0% more international minutes than in the previous year. Year on year, the minutes to all other destinations declined.

<sup>\*</sup>From Q1 2012 onwards revenues from online services are no longer included in the survey and are therefore not shown in the chart. Values up to Q4 2011 can be found in the table at the end of the section.

## Revenues per call minute

#### **⇒** REVENUES FROM RESIDENTIAL CUSTOMERS PER MINUTE BACK AT STARTING LEVEL

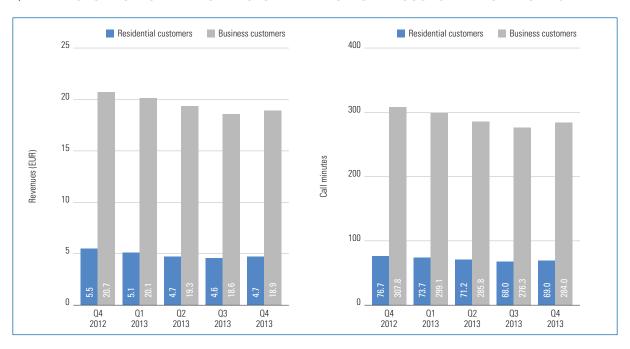


The chart above shows the revenues per call minute for telephone calls from the fixed network to various destinations, broken down into residential and business customers. Revenue per call minute is calculated from retail revenues from carrier services (charts "Retail revenues from carrier services 1/1 and 1/2"), divided by the number of real minutes (chart "Call minutes on the retail market"). The data underlying this chart can be found in the table at the end of the section.

- Revenues per minute changed only slightly in the course of the year 2013, however, the kink in revenues from residential customers per minute to international destinations is remarkable. This can be explained by the fact that due to a special offer one operator recorded substantially more international call minutes than usual, with revenues remaining constant.
- Calls of business customers to the domestic fixed network continued to generate the lowest revenues per minute. Slightly higher revenues per minute came from calls of residential customers to the fixed network. The highest revenues per minute were generated from calls of residential customers to the mobile network.

## The average fixed-network subscriber

#### ⇒ REVENUES FROM CARRIER SERVICES AND MINUTES PER CUSTOMER DOWN ON 2012

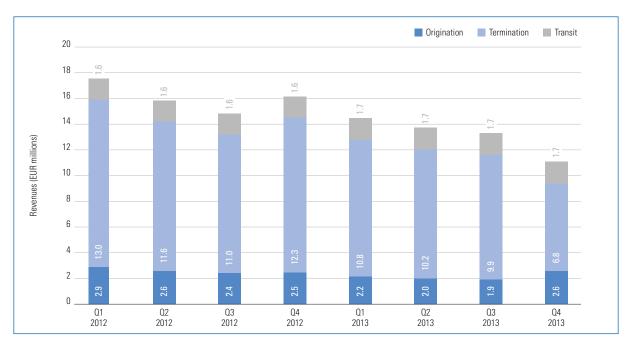


The chart shows the average number of active call minutes (real minutes) on the fixed network for business and residential customers per month in the respective quarter as well as the average revenues from carrier service charges generated per month in the quarter. The monthly values are calculated from a third of revenues from carrier service charges and a third of the call minutes, divided in each case by the total number of fixed-network lines in the respective quarter. Since the KEV amendment revenues from access services have no longer been exactly attributable to fixed network voice telephony (bundled products with broadband), for this reason they are not shown in the chart.

- In Q4 2013, average revenues from carrier service charges in the fixed network amounted to EUR 4.7 per month for residential customers (down 13.4% compared with Q4 2012) and EUR 18.9 per month for business customers (down 8.4% compared with Q4 2012). In total, all quarterly values of 2013 were below those of 2012.
- A similar trend is seen in the number of real minutes. In Q4 2013, business customers, on average, each made 284.0 minutes of calls per month (down 7.8% compared with Q4 2012), residential customers each made 69.0 minutes of calls per month (down 10.1% compared with the end of 2012).

## Wholesale revenues

#### **⇒** SHARP DECLINE IN WHOLESALE REVENUES

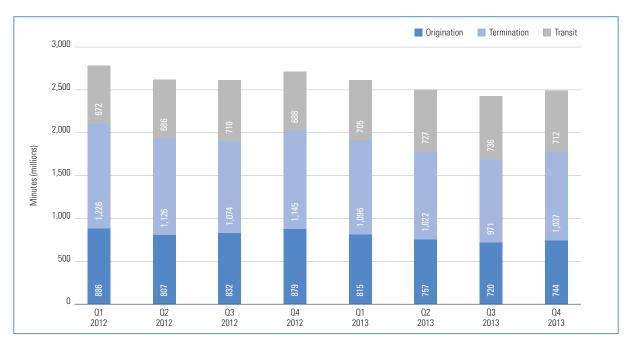


The fixed wholesale market for voice telephony includes three sub-services: origination, termination and transit services (see Glossary).

- In 2013, the fixed wholesale market was characterised by a downward trend in revenues. Total revenues for 2013 were EUR 53.3 million. In Q4 2013, total wholesale revenues reached a new low of EUR 11.1 million. This sharp decline was due to Decision M 1.8/12 of 30 September 2012, where termination charges were considerably lowered with effect from 1 November 2013. Wholesale revenues can therefore be expected to decline further.
- In Q4 2013, termination revenues, at 60.9%, accounted for the largest proportion of total wholesale revenues. The substantial decline in termination charges of 31.6% to EUR 6.8 million was caused by the above-mentioned reduction despite an increase in termination minutes (see next page).
- The unusual rise in origination revenues can be explained by Decision M 1.9/12 of 30 September 2013 with effect from 1 November 2013, by which A1 Telekom Austria AG was allowed to raise fixed network origination charges. Even though origination revenues increased by one third to EUR 2.6 million in Q4 2013, they could not offset the sharp decline in termination revenues because of their smaller share (23.7%) in wholesale revenues.
- At EUR 1.7 million, transit revenues remained almost unchanged (up 0.9%).

## Wholesale market in minutes

#### **⇒** DECLINE IN TOTAL MINUTES YEAR ON YEAR

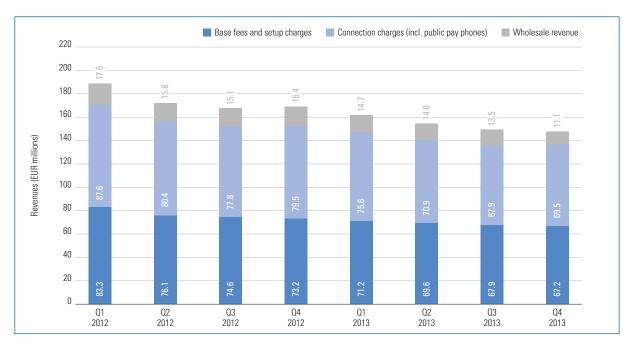


In line with wholesale revenues, the wholesale market includes origination, termination and transit minutes (see Glossary).

- Wholesale minutes totalled 10.043 billion in 2013, which is 6.4% less than in the previous year. At 41.1%, termination minutes accounted for the largest proportion of all wholesale minutes.
- After a drop in Q2 and Q3 2013, total wholesale minutes increased again slightly (up 2.7% compared with the previous quarter) to 2.5 billion minutes.
- If Q4 2013 is compared with Q4 2012, a marked decline can bee seen mainly in origination minutes (down 15.4%), which also corresponds to the decrease in CbC and CPS customers. Termination minutes dropped by 9.4%, whereas transit minutes increased by 3.5% against the last quarter of 2012.

## Total fixed network revenues

#### **→ TOTAL REVENUES FOR 2013 AGAIN FALLING**

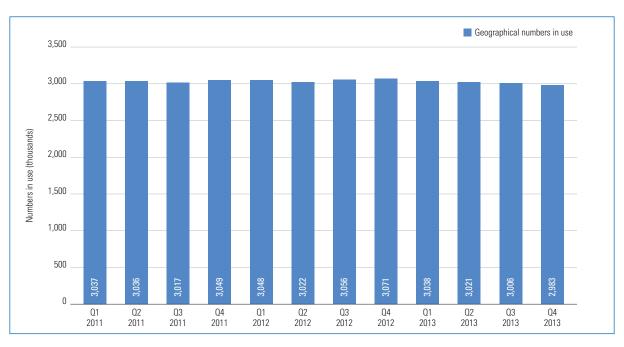


Total fixed network revenue is calculated from the total of all base fees and setup charges including other charges (revenues from optional tariffs, calling cards, charges stipulated by the Telecommunications Fee Subsidies Act and other charges such as invoicing, additional services etc.), connection charges (including public pay phones) and revenues from origination, termination and transit charges. Not included are revenues from fixed network voice telephony that were earned from products bundled with broadband.

- Total fixed network revenues in 2013 were some EUR 613.0 million, down by 12.1% from 2012.
- Compared with Q4 2012, fixed network revenues fell to EUR 147.8 million in Q4 2013, which means a fall of 12.6%.
- In Q4 2013, total fixed network revenues were made up in almost equal proportions of connection charges (47.0%) and base fees and setup charges (45.5%).
- Wholesale revenues accounted for 7.5% of total fixed network revenues (EUR 11.1 million) in Q4 2013.

## Geographical numbers in use

#### **⇒ SLIGHT YEAR-ON-YEAR DECLINE**

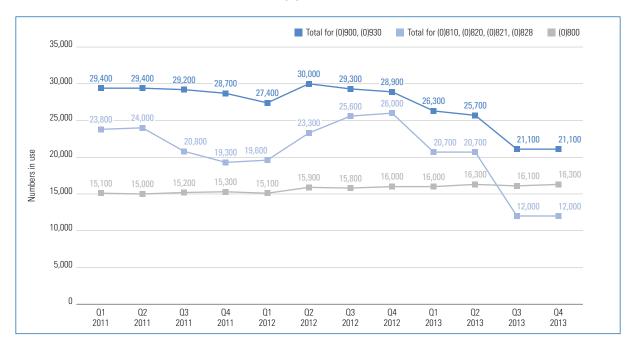


Geographical numbers are domestic telephone numbers prefixed by a local area code (e.g. 01 for Vienna). As more than one number may be assigned to a single line, the number of geographical numbers is not identical to the number of fixed subscriber lines.

■ At the end of 2013 the total of geographical call numbers used was 2.98 million. This is a decline of 2.9% compared with the end of 2012.

# Service numbers in use: (0)800, (0)810, (0)820, (0)821, (0)828, (0)900, (0)930

#### **▶ DECLINE IN ALL RANGES EXCEPT FOR (0)800 NUMBERS**

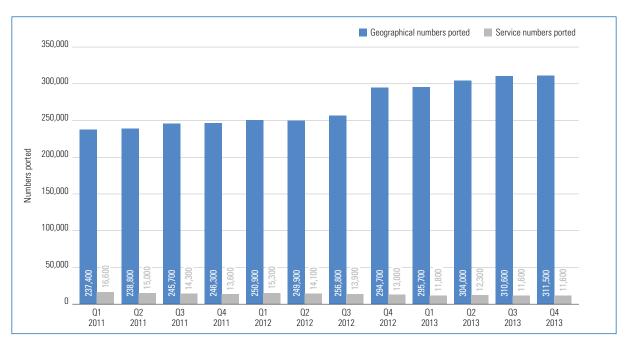


The figure above shows the number of service numbers in use in the following ranges:

- (0)800 range: toll-free services
- (0)810 range: max. EUR 0.10 per minute or text message
- (0)820 range: max. EUR 0.20 per minute or text message
- (0)821 range: max. EUR 0.20 per call or text message
- (0)828 range: text messages only; standard charges apply
- (0)900 range: max. EUR 3.64 per minute or max. EUR 10.00 per text message
- (0)930 range: max. EUR 3.64 per minute or max. EUR 10.00 per text message (erotic hotlines)
- Over the past few years, the (0)800 numbers have seen a relatively constant development. At the end of 2013, there were 16,300 service numbers in use in this range (up 1.9% compared with Q4 2012).
- (0)900 and (0)930 numbers decreased significantly to 21,100 against the end of 2012, which is a decline of 27.2%
- Even more significant is the decline in (0)810, (0)820, (0)821 and (0)828 numbers. While there were still about 26,000 numbers in this range at the end of 2012, this figure dropped to some 12,000 within one year (down 53.9%).

## Ported geographical numbers and service numbers

#### **CONTINUOUS RISE IN PORTED GEOGRAPHICAL NUMBERS**



Number porting allows customers to retain their telephone numbers when they switch service providers. This means that customers can keep their original geographical telephone numbers (within the same local area code) when they switch to a new provider.

The figure above shows the total number of geographical telephone numbers and service numbers ported (which is not equal to the total number of porting procedures, as a single number may be ported several times).

- The number of ported geographical telephone numbers rose by 5.7% since the end of 2012 to 311,500 at the end of 2013. This corresponds to 10.4% of all geographical numbers.
- In contrast, the number of ported service numbers fell to some 11,600 (down 10.7%) over the same period.

FIXED LINES (PAGE 8)					
	Number of lines				
		Fixed lines / households	Fixed lines / businesses		
	Q1	2,122,930	653,734		
2011	02	2,125,334	648,962		
2011	Ω3	2,121,860	647,826		
	Q4	2,114,406	644,708		
	Q1	2,108,193	634,072		
2012	02	2,085,057	626,161		
2012	Q3	2,074,915	623,860		
	Q4	2,068,175	620,165		
	Q1	2,051,193	619,374		
2013	02	2,037,457	613,169		
2013	0.3	2,030,149	609,047		
	Q4	2,015,177	608,984		

		FIXED-LINE PENETRATION (PAG	E 9)
		in	%
		Fixed-line penetration / households	Fixed-line penetration / businesses
	Q1	58.2%	214.0%
2011	02	58.2%	212.4%
2011	03	58.1%	212.1%
	Q4	57.9%	211.1%
	Q1	57.8%	207.6%
0040	02	57.1%	205.0%
2012	03	56.8%	204.2%
	Q4	56.7%	203.0%
	Q1	56.2%	202.8%
2012	02	55.8%	200.7%
2013	03	55.6%	199.4%
	04	55.2%	199.4%

DEVELOPMENT OF FIXED LINES (PAGE 10)						
				Number of lines		
		POTS	ISDN	Multi-ISDN	VoB	Wireless
	Q1	2,447,333	329,330	10,204		
2011	02	2,448,479	325,817	10,203		
2011	0.3	2,446,550	323,136	10,224		
	04	2,438,500	320,613	10,261		
	Q1	2,423,628	318,637	11,875	573,868	26,191
2012	02	2,397,015	314,203	11,843	584,546	26,790
2012	0.3	2,386,842	311,934	12,092	593,224	27,437
	Q4	2,379,281	309,059	12,237	605,099	27,985
	Q1	2,365,655	304,912	12,230	612,542	28,452
2013	02	2,349,915	300,711	12,224	619,293	28,667
	03	2,341,821	297,375	12,299	627,340	28,891
	04	2,328,338	295,822	13,804	617,575	29,266

351,921

CARRIER PRE-SELECTION AND CALL-BY-CALL CUSTOMERS (PAGE 11)					
		Number of customers			
		CbC customers	CPS customers		
	Ω1	184,785	500,435		
2011	02	181,653	494,475		
2011	0.3	125,233	487,370		
	Q4	123,082	422,913		
	Q1	113,531	411,346		
2012	02	106,640	399,908		
2012	0.3	103,044	389,495		
	Q4	99,417	383,023		
	Q1	95,664	372,749		
2013	02	86,702	364,403		
2013	03	84 582	357 506		

84,884

	RETAIL REVENUES FROM ACCESS SERVICES (PAGE 12)				
		El	JR		
		Residential customers	Business customers		
	Ω1	37,203,503	37,349,043		
2012	Ω2	30,938,310	37,184,153		
2012	Q3	30,308,089	36,467,970		
	Q4	29,249,487	36,306,140		
	Q1	27,991,237	35,801,827		
2013	Ω2	26,824,815	35,480,002		
2013	Ω3	25,727,224	35,075,707		
	Q4	24,975,139	35,177,753		

RETAIL REVENUES FROM CARRIER SERVICES 1/2 (PAGE 13)						
		EUR				
		Residential customers	Business customers			
	Q1	42,073,786	48,301,904			
2011	0.2	38,456,589	45,869,329			
2011	03	37,580,959	44,398,313			
	Q4	38,521,721	43,219,087			
	Q1	36,584,136	43,201,386			
2012	02	33,727,694	39,454,362			
2012	03	32,772,377	38,125,583			
	Q4	33,944,355	38,469,540			
	Q1	31,399,059	37,379,784			
2013	0.2	28,934,293	35,569,607			
2013	0.3	27,841,400	33,911,930			
	Q4	28,646,740	34,592,695			

#### **RETAIL REVENUES FROM CARRIER SERVICES 2/2 (PAGE 14)**

				EUR		
		Domestic fixed network	Domestic mobile network	International	Service numbers and directory assistance services	Online services
	Q1	24,639,100	37,058,865	23,282,662	4,801,359	593,703
2011	02	22,383,250	35,894,814	20,902,942	4,616,362	528,550
2011	0.3	20,839,127	34,463,665	21,563,576	4,611,219	501,685
	Q4	21,108,182	34,176,725	21,226,518	4,770,243	459,140
	Q1	21,149,980	33,298,529	20,835,524	4,501,490	*
2012	02	18,357,378	31,285,129	19,295,465	4,244,084	*
2012	0.3	17,575,584	30,253,190	19,058,148	4,011,038	*
	Q4	18,463,474	30,909,390	18,728,302	4,312,730	*
	Q1	17,856,886	29,178,704	17,643,270	4,099,983	*
2013	02	15,972,375	28,221,965	16,641,745	3,667,815	*
	0.3	15,043,013	26,950,314	16,022,136	3,737,867	*
	Q4	15,673,907	27,241,695	16,118,900	4,204,934	*

<sup>\*</sup> Data collection for online services was discontinued in Q1 2012.

#### **CALL MINUTES ON THE RETAIL MARKET (PAGE 15)**

				Minutes		
		Domestic fixed network	Domestic mobile network	International	Service numbers and directory assistance services	Online services
	Q1	838,639,288	245,512,387	198,782,414	40,188,294	18,915,069
2011	02	755,918,422	236,025,717	186,255,968	37,926,502	15,104,526
2011	03	712,520,921	230,529,494	176,768,125	38,557,478	13,020,055
	Q4	734,658,271	232,954,768	181,362,903	36,881,102	11,224,498
	Q1	722,744,948	225,153,860	170,739,356	34,387,931	*
2012	02	642,076,547	210,516,466	158,518,833	29,089,673	*
2012	03	614,099,343	203,786,530	151,002,436	25,260,776	*
	Q4	649,815,794	211,656,246	162,310,224	24,763,122	*
	Q1	632,223,826	204,322,299	160,164,692	24,479,136	*
2013	02	575,980,175	197,701,995	176,390,118	21,547,434	*
	03	538,088,534	191,404,423	178,401,260	21,116,417	*
	04	568,570,960	195,173,175	159,958,012	22,357,901	*

<sup>\*</sup>Data collection for online services was discontinued in  $\overline{\text{Q1 2012.}}$ 

REVENUES PER CALL MINUTE (PAGE 16)										
			EUR cents							
		Domestic fixed network / residential customers	Domestic mobile network / residential customers	International destinations / residential customers	Domestic fixed network / business customers	Domestic mobile network / business customers	International destinations / business customers			
	Q1	3.06	18.74	12.10	2.82	13.12	11.37			
0044	02	3.00	19.08	11.10	2.93	13.12	11.33			
2011	03	2.97	18.63	13.08	2.89	12.97	11.45			
	04	2.90	18.26	12.04	2.85	12.69	11.36			
	Ω1	3.03	18.76	12.81	2.83	12.73	11.65			
0040	02	2.92	19.04	12.71	2.81	12.63	11.68			
2012	03	2.97	19.05	13.13	2.77	12.58	12.16			
	Q4	2.94	18.79	12.11	2.75	12.33	10.99			
	Ω1	2.95	18.61	11.30	2.71	12.08	10.74			
2012	02	2.85	18.72	8.33	2.71	12.06	10.83			
2013	03	2.93	18.81	7.73	2.69	11.75	10.69			
	Q4	2.86	18.52	9.75	2.68	11.64	10.44			

WHOLESALE REVENUES (PAGE 18)									
			EUR						
		Origination	Termination	Transit					
	Q1	2,899,434	13,016,183	1,644,444					
0040	02	2,614,763	11,598,870	1,583,710					
2012	Q3	2,421,544	11,038,184	1,598,952					
	Q4	2,489,294	12,280,073	1,645,385					
	Q1	2,160,969	10,831,004	1,737,653					
2013	Q2	2,031,861	10,208,449	1,721,776					
2013	03	1,919,133	9,893,241	1,683,684					
	Q4	2,635,735	6,763,560	1,699,304					

WHOLESALE MARKET IN MINUTES (PAGE 19)									
	Г		Minutes						
		Origination Termination Transit							
	Q1	885,692,507	1,226,058,214	672,175,766					
2012	Q2	806,961,841	1,125,662,028	685,781,022					
2012	Q3	832,139,219	1,074,118,565	709,712,872					
	Q4	878,892,059	1,145,086,868	688,330,138					
	Q1	814,847,707	1,096,471,412	705,273,673					
2013	Q2	757,273,908	1,021,745,115	727,228,003					
2010	Q3	720,182,209	970,651,891	735,807,223					
	Q4	743,517,192	1,037,494,035	712,272,641					

TOTAL FIXED NETWORK REVENUES (PAGE 20)									
		EUR							
		Base fees and setup charges	Connection charges (incl. public pay phones)	Wholesale revenue					
	Q1	83,260,729	87,627,499	17,560,061					
2012	02	76,078,454	80,374,386	15,797,343					
2012	0.3	74,574,797	77,847,564	15,058,679					
	Q4	73,211,646	79,510,928	16,414,752					
	Q1	71,243,067	75,552,640	14,729,626					
2013	Ω2	69,580,828	70,886,843	13,962,086					
2013	0.3	67,903,386	67,858,423	13,496,058					
	Q4	67,177,261	69,483,531	11,098,598					

#### GEOGRAPHICAL NUMBER IN USE AND FIXED-LINE PORTING (PAGES 21/23)

		Geographical numbers in use	Geographical numbers ported	Service numbers ported
	Q1	3,037,378	237,438	16,623
0044	02	3,035,921	238,810	14,995
2011	03	3,017,262	245,674	14,283
	Q4	3,049,404	246,336	13,590
	Q1	3,047,746	250,909	15,283
2012	02	3,022,379	249,885	14,072
2012	Q3	3,055,918	256,791	13,868
	Q4	3,071,401	294,705	12,987
	Q1	3,037,523	295,652	11,752
2012	02	3,020,653	303,964	12,292
2013	03	3,006,438	310,636	11,624
	Q4	2,983,373	311,474	11,603

#### SERVICE NUMBERS IN USE - (0)800, (0)810, (0)820, (0)821, (0)900, (0)930 (PAGE 22)

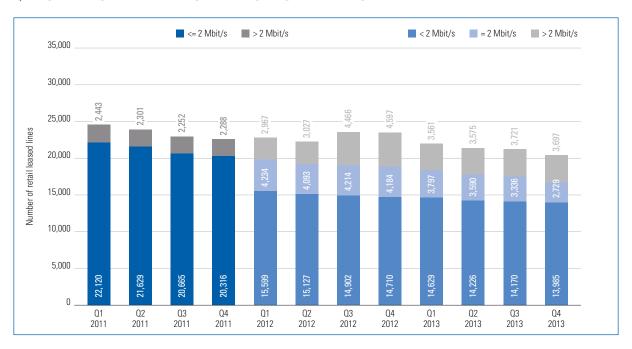
		Numbers in use						
		(0)720	(0)780	(0)800	(0)810. (0)820. (0)821. (0)828	(0)900. (0)930		
	Q1	50,385	2,316	15,094	23,825	29,356		
0044	02	52,312	2,316	15,042	24,026	29,374		
2011	03	52,816	2,330	15,208	20,799	29,237		
	Q4	58,513	1,911	15,311	19,255	28,688		
	Q1	64,687	1,917	15,090	19,561	27,422		
2012	02	66,073	1,906	15,939	23,267	30,025		
2012	03	68,037	1,901	15,846	25,635	29,253		
	Q4	68,079	1,900	15,972	25,959	28,934		
2012	Q1	66,657	1,902	15,969	20,706	26,292		
	02	68,451	1,890	16,288	20,651	25,667		
2013	03	71,126	1,078	16,121	12,023	21,079		
	Q4	71,507	551	16,276	11,963	21,064		

## 2 | Leased lines



## Number of retail leased lines in Austria

#### **▶ NUMBER OF RETAIL LEASED LINES IN STEADY DECLINE**

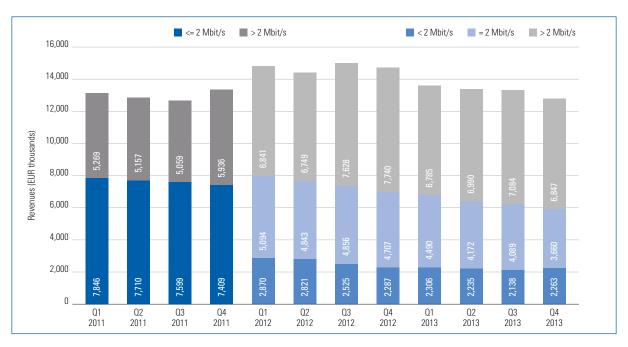


The chart above shows the number of retail leased lines (see Glossary). Until Q4 2011 these were broken down into lines with a capacity of 2 Mbit/s or less (<= 2 Mbit/s) and lines with a capacity exceeding 2 Mbit/s (> 2 Mbit/s); from Q1 2012 the categories used were lines with a capacity of less than 2 Mbit/s (< 2 Mbit/s), 2 Mbit/s (= 2 Mbit/s) and exceeding 2 Mbit/s (> 2 Mbit/s). In addition, the table at the end of the section provides a differentiation between the following categories: greater than 2 Mbit/s to 155 Mbit/s (> 2 Mbit/s) and greater than 155 Mbit/s (> 155 Mbit/s).

- At the end of 2013, a total of about 20,400 retail leased lines was reported (13.1% down compared with the end of 2012). The decline in retail leased lines extends to all bandwidth categories.
- Bandwidths with a capacity of 2 Mbit/s receded most. They were down by 34.8% as against Q4 2012. 13.4% of all leased lines fall into this category.
- About two thirds (68.5%) of retail leased lines, i.e. close to 14,000, were accounted for by bandwidths with a capacity of less than 2 Mbit/s, which is 4.9% down compared with the end of 2012.
- High bandwidths (> 2 Mbit/s) also declined (down 19.6%); an increase against the reference period can be seen only in the sub-category of bandwidths with a capacity greater than 155 Mbit/s. However, with 324 lines, this category accounts only for 1.6% of the total retail leased lines market and is therefore almost negligible.

## Revenues from retail leased lines in Austria

#### **⇒** REVENUES ARE STEADILY DECREASING



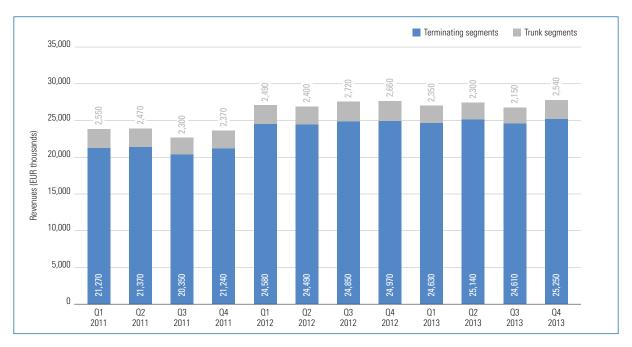
The chart shows the revenues from retail leased lines in Austria (see Glossary). Until Q4 2011 these were broken down into lines with a capacity of 2 Mbit/s or less (<= 2 Mbit/s) and lines with a capacity exceeding 2 Mbit/s (> 2 Mbit/s); from Q1 2012 the categories used were lines with a capacity of less than 2 Mbit/s (< 2 Mbit/s), 2 Mbit/s (= 2 Mbit/s) and exceeding 2 Mbit/s (> 2 Mbit/s). In addition, the table at the end of the section provides a differentiation between the following categories: greater than 2 Mbit/s to 155 Mbit/s (>2 Mbit/s) and greater than 155 Mbit/s (> 155 Mbit/s).

Changes in revenues are, of course, partly due to the lengths of leased lines, which are not, however, surveyed under the Communications Survey Ordinance (KEV) and therefore are not shown separately in the chart.

- Retail leased lines generated total revenues of EUR 53.1 million in 2013, which is a decline of 10% against 2012. Of the annual revenues, close to EUR 12.8 million were earned in Q4 2013, which means a drop of 13.3% against the reference period 2012.
- In 2013, revenues from bandwidths of less than 2 Mbit/s remained practically unchanged, declining only by 1.0% on Q4 2012, and were EUR 2.3 million in Q4 2013. This corresponds to 17.7% of total revenues from retail leased lines.
- More pronounced was the decline in bandwidths equal to 2 Mbit/s, where revenues slipped by 22.3% from Q4 2012 to Q4 2013, amounting to some EUR 3.7 million.
- High bandwidths, too, experienced a drop in revenue. At EUR 6.9 million, revenues were lower by 11.5% from October to December 2013 than in the reference period 2012. Even though high bandwidths (> 155 Mbit/s) generated higher revenues by about 20% than at the end of the previous year, the share (7.1%) of these high bandwidths in total revenues is (still) relatively low.

# Revenues from terminating segments and trunk segments

#### **➡ WHOLESALE REVENUES REMAIN CONSTANT**

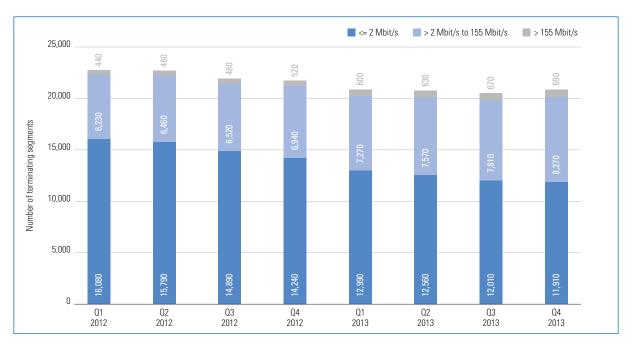


The chart above shows the wholesale revenues from terminating segments and trunk segments. Trunk segments refer to leased lines or Ethernet services that normally do not extend to the user's network termination point and link interconnection points in the 28 Austrian towns and cities where A1 Telekom has set up network interconnection points to other telecommunications operators. On the other hand, terminating segments refer to services at the wholesale level, which are not classified as trunk segments (see Glossary).

- Wholesale revenues amounted to EUR 27.8 million in Q4 2013, which is up by 0.6% compared with the reference period 2012. In 2013, total revenues on the wholesale market were EUR 109.0 million (down 0.2% against 2012).
- Of EUR 27.8 million in Q4 2013, EUR 25.3 million (90.9%) were accounted for by terminating segments, EUR 2.5 million (9.1%) by trunk segments.
- Revenues from terminating segments rose by 1.1% in Q4 2013 compared with Q4 2012, those from trunk segments decreased by 4.4%.

# Number of terminating segments of leased lines in Austria

#### **⇒** SHIFTS TOWARDS HIGHER BANDWIDTHS



The chart above shows the number of terminating segments of leased lines and Ethernet services broken down into capacities of <= 2 Mbit/s, > 2 Mbit/s to 155 Mbit/s and > 155 Mbit/s. In addition, a breakdown into capacities of < 2 Mbit/s and = 2 Mbit/s as well as > 155 Mbit/s to 1 Gbit/s and > 1 Gbit/s is given in the table at the end of the section.

- At the end of 2013, the number of terminating segments was some 20,900, i.e. 3.8% less than at the end of 2012.
- In terms of bandwidths, partly significant shifts occurred. Terminating segments with low bandwidths (<= 2 Mbit/s) dropped by 16.4% to 11,910 in 2013. Nevertheless, these low bandwidths still accounted for 57.1% of all terminating segments.
- In contrast, bandwidths from > 2 Mbit/s to 155 Mbit/s increased in the course of the year by 19.2% to 8,270, which corresponds to 39.6% of all terminating segments.
- An even stronger increase (up 32.7%) can be seen in terminating segments with bandwidths greater than 155 Mbit/s; however, they amounted to only 3.3% of all terminating segments of leased lines.

NUMBER OF RETAIL LEASED LINES IN AUSTRIA (PAGE 30)										
		Number of lines								
		<= 2 Mbit/s	> 2 Mbit/s	< 2 Mbit/s	= 2 Mbit/s	> 2 Mbit/s to 155 Mbit/s	> 155 Mbit/s			
	Q1	22,120	2,443							
0044	02	21,629	2,301							
2011	0.3	20,665	2,252							
	Q4	20,316	2,288							
	Q1			15,599	4,234	2,770	198			
2012	02			15,127	4,093	2,820	207			
2012	Q3			14,902	4,214	4,179	286			
	Q4			14,710	4,184	4,296	301			
	Q1			14,629	3,797	3,261	300			
2013	02			14,226	3,590	3,278	298			
2013	Q3			14,170	3,336	3,387	334			
	04			13,985	2,729	3,373	324			

#### REVENUES FROM RETAIL LEASED LINES IN AUSTRIA (PAGE 31)

			EUR					
		<= 2 Mbit/s	> 2 Mbit/s	< 2 Mbit/s	= 2 Mbit/s	> 2 Mbit/s to 155 Mbit/s	> 155 Mbit/s	
	Q1	7,845,978	5,268,680					
2011	02	7,710,028	5,156,879					
2011	0.3	7,599,000	5,059,072					
	Q4	7,409,477	5,936,118					
	Q1			2,869,696	5,093,549	6,199,782	641,187	
2012	02			2,820,639	4,843,302	6,108,664	639,948	
2012	0.3			2,525,143	4,855,924	6,874,813	752,933	
	Q4			2,286,557	4,707,091	6,983,735	755,888	
	Q1			2,305,750	4,490,309	6,014,509	770,665	
2012	02			2,234,947	4,171,874	6,111,951	878,294	
2013	03			2,137,578	4,088,995	6,100,995	982,760	
	Q4			2,262,614	3,659,568	5,939,312	907,472	

#### WHOLESALE REVENUES FROM LEASED LINES AND ETHERNET SERVICES (PAGE 32)

		EUR						
		Terminating segments / leased lines	terminating segments / Ethernet services	Trunk segments / leased lines	Trunk segments / Ethernet services			
	Q1	21,273,113		2,554,325				
0044	Q2	21,371,847		2,465,453				
2011	03	20,353,582		2,301,961				
	Q4	21,242,861		2,370,865				
	Q1	16,673,507	7,908,506	2,109,440	377,138			
2012	02	16,348,471	8,139,189	1,988,042	415,404			
2012	Q3	16,640,722	8,212,867	1,979,038	743,614			
	Q4	16,187,298	8,787,009	1,889,468	768,150			
	Q1	15,684,985	8,949,336	1,830,584	522,385			
2013	02	15,804,281	9,336,129	1,728,829	575,165			
2013	Q3	15,097,588	9,508,942	1,547,810	598,400			
	Q4	15,526,814	9,727,047	1,610,751	929,981			

|--|

		Number of terminating segments						
		< 2 Mbit/s	= 2 Mbit/s	> 2 Mbit/s to 155 Mbit/s	> 155 Mbit/s to 1 Gbit/s	> 1 Gbit/s		
	Q1	485	13,924	2,662	178	6		
2012	02	494	13,561	2,718	186	7		
	03	462	13,355	2,894	195	7		
	Q4	451	12,934	2,820	202	7		
	Q1	387	11,786	2,939	268	8		
2013	02	354	11,370	2,945	281	7		
	Q3	331	10,851	3,053	292	7		
	Q4	323	10,196	3,105	294	8		

#### NUMBER OF TERMINATING SEGMENTS OF ETHERNET SERVICES IN AUSTRIA

		Number of terminating segments					
		< 2 Mbit/s	= 2 Mbit/s	> 2 Mbit/s to 155 Mbit/s	> 155 Mbit/s to 1 Gbit/s	> 1 Gbit/s	
	Q1	585	1,090	3,572	235	22	
2012	Q2	618	1,120	3,742	244	20	
	Q3	36	1,038	3,625	274	3	
	Q4	59	801	4,122	306	3	
	Q1	26	790	4,329	317	4	
2013	Q2	17	816	4,625	326	11	
	Q3	14	813	4,762	355	12	
	Q4	14	1,377	5,169	380	12	

#### LEASED LINES - NUMBER OF 64 KBIT/S EQUIVALENTS

		Number of 64 kbit/s equivalents						
		< 2 Mbit/s	= 2 Mbit/s	> 2 Mbit/s to 155 Mbit/s	> 155 Mbit/s to 1 Gbit/s	> 1 Gbit/s		
2012	Q1	5,734	436,546	1,645,971	1,941,522	889,665		
	Q2	5,543	425,235	1,698,299	2,054,495	978,115		
	Q3	5,175	423,190	1,826,737	2,208,215	978,115		
	Q4	4,876	409,794	1,863,734	2,240,302	978,115		
2013	Q1	4,372	388,932	1,828,539	3,785,346	1,029,606		
	Q2	4,086	372,369	1,786,833	3,869,980	984,464		
	Q3	3,929	360,595	1,834,631	3,953,993	984,464		
	Q4	3,794	338,751	1,876,182	2,777,224	1,398,881		

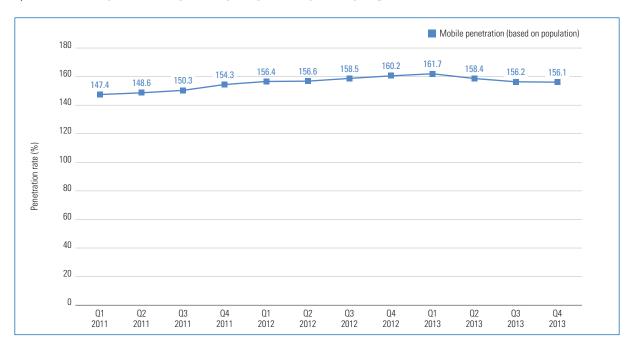
ETHERNET SERVICES - NUMBER OF 64 KBIT/S EQUIVALENTS										
		Number of 64 kbit/s equivalents								
		< 2 Mbit/s	= 2 Mbit/s	> 2 Mbit/s to 155 Mbit/s	> 155 Mbit/s to 1 Gbit/s	>1 Gbit/s				
2012	Q1	5,567	35,630	1,453,135	2,596,609	348,348				
	Q2	5,914	36,622	1,489,584	2,559,311	315,172				
	03	393	33,936	1,407,741	2,756,576	49,764				
	Q4	603	26,151	1,535,695	3,035,570	49,764				
2013	Q1	299	25,845	1,638,638	3,098,585	81,403				
	02	215	26,691	1,778,196	3,155,678	265,832				
	03	184	26,579	1,777,071	3,280,830	299,008				
	Q4	184	44,851	2,023,906	3,598,257	428,096				

## 3 | Mobile communications



## Mobile penetration

### **⇒** PENETRATION RATE DOWN DUE TO DATA CLEANSING



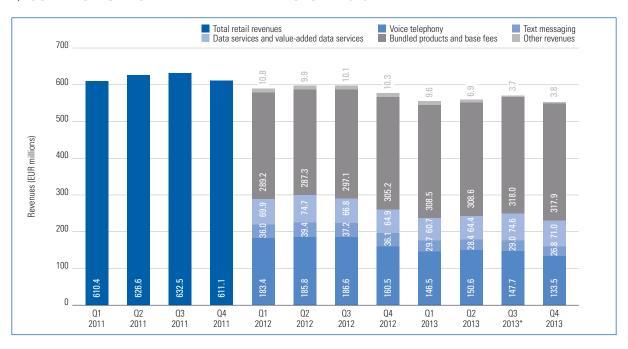
Source: RTR, Statistics Austria (population figure)

The mobile penetration rate is calculated as the number of activated SIM cards divided by the country's population. This figure therefore represents the (notional) average number of SIM cards owned by every inhabitant. However, it also includes both SIM cards used by businesses and machine-to-machine (M2M) SIM cards.

- 2011 and 2012 were characterised by a continuously growing penetration rate. In contrast, in 2013, the penetration rate declined due to data cleansing carried out by one operator in respect of the number of subscribers.
- The penetration rate peaked in Q1 2013 at 161.7%, falling from then onwards to 156.2% over the next two quarters. This was due to the mergers that took place in 2013 and to associated data cleansing carried out by the operators. After data cleansing in Q2 and Q3 2013, the penetration rate remained constant.

## Retail revenues from mobile communications

### **⇒** CONTINUING DECLINE IN RETAIL REVENUES IN 2013



The chart above includes all revenues (base fees, activation charges, service charges, connection charges etc.), earned from the company's (own) retail customers in Austria, including revenues earned from roaming. In line with the amendment to the KEV, mobile services revenues were classified in 2012 as follows:

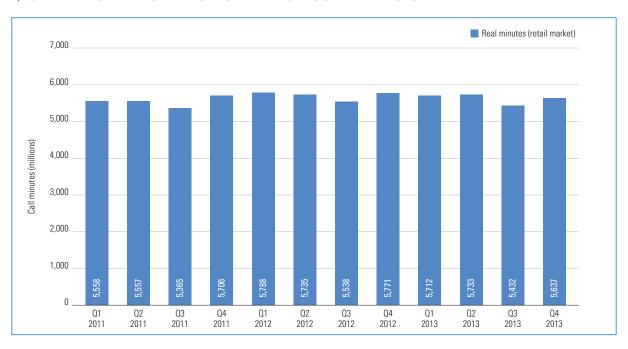
- Revenues clearly attributable to mobile voice telephony or value-added voice services;
- Revenues clearly attributable to text messaging and value-added text messaging services;
- Revenues clearly attributable to mobile data and value-added data services (including multimedia messages);
- Bundled products and base fees: revenues not clearly attributable to one of the aforementioned categories;
- Revenues from "bundled products and base fees" accounted for by data services (excluding text messages);\*\*
- Other revenues, e.g. reminder charges
- Total retail revenues in 2013 amounted to some EUR 2.240 billion, i.e. 5.1% less than in 2012.
- The largest proportion of the revenues was earned by bundled products and base fees. These revenues continuously increased in 2012 and 2013, amounting in total EUR 1.253 billion in 2013 (up 6.3% against 2012).
- Revenues from voice telephony suffered a sharp decline. While they amounted to EUR 716.2 million in 2012, this figure dropped to EUR 578.3 million in 2013, which is a decline of 19.3%.
- The downward trend in revenues from text messaging also continued. In 2012, revenues were at EUR 148.7 million, compared with EUR 114.0 million in 2013. This was a loss in revenue of 33.4%.
- However, revenues from data and value-added data services remained almost constant over the years (EUR 270.8 million in 2013 against EUR 276.2 million in 2012 mean a decline of 2.0%).
- Other revenues fell from EUR 41.1 million in 2012 to EUR 24.0 million in 2013 (down 41.5 %).

<sup>\*</sup>Due to retrospective corrections the figures shown on this page vary by more than 5% from those in the last issue of the RTR Telecom Monitor.

<sup>\*\*</sup>These are not shown separately in the chart; however, their share can be seen in the table at the end of the section.

## Call minutes on the retail market

### **⇒** STEADY NUMBER OF MINUTES – WITH SEASONAL EFFECTS

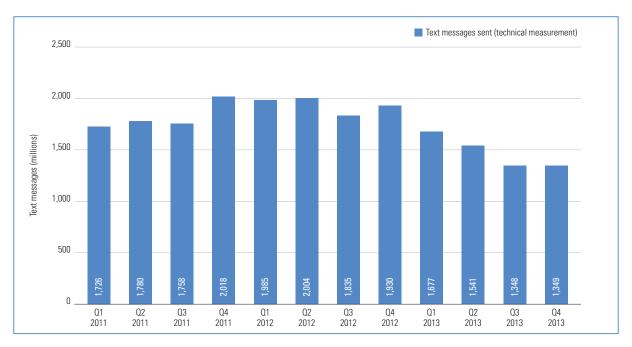


The chart above shows the actual call minutes (technical measurement, see Glossary) on mobile networks. This includes minutes from voice telephone calls including value-added voice services, but not (non-voice) services, video telephony etc.

- The substantial losses in revenues from voice telephony are not reflected in the call minutes used. In 2013, the total number of mobile call minutes was 22.5 billion minutes, only 1.4% less than in the previous year.
- The chart clearly depicts the seasonal development of the call minutes, the third quarter being the weakest of the four quarters due to the holiday season. In this respect, the rise in call minutes in Q4 2013 (up 3.8% on Q3) was in line with a periodic trend.

## Text messages

### **▶ NUMBER OF TEXT MESSAGES PLUMMETING**

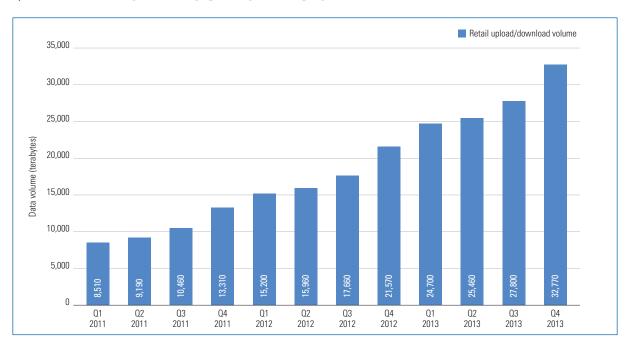


The chart above shows the number of text messages (technical measurement) sent in the respective quarters. For text messages, similar to call minutes, the term "technical measurement" means that the figure also includes text messages that are not charged individually to the retail customer (e. g. text messages included in the base fee or flat rate). Multimedia messages are not included in these figures.

- Since text messages sent reached their peak in Q4 2011 with more than 2 billion text messages, the figure has fallen sharply. Comparing Q4 2012 with Q4 2013, the number of text messages dropped by 30.1% to some 1.349 billion text messages sent in Q4 2013. It is somewhat misleading that text messages appear to level off at this figure, as the fourth quarter of a year has always been strong and, in fact, the absence of the usual rise also equals a decline.
- This is attributable to the increasing distribution of smartphones equipped for messaging services like WhatsApp or iMessage that are more frequently used by many customers, replacing text messages.

## Data volume (retail market)

### **⇒** APPARENTLY NO END IN SIGHT TO DATA GROWTH

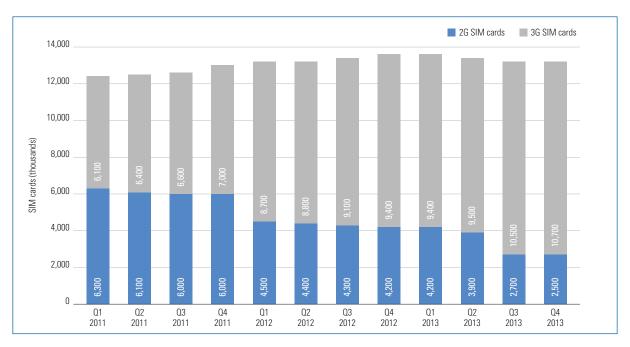


The chart above shows the data volume used for uplink and downlink transmissions on the retail mobile communications market in terabytes (1 terabyte = 1,024 gigabytes = 1,048,576 megabytes). These figures do not include text messages or multimedia messages.

- 32,770 terabytes in the last quarter of 2013 meant a new record, as in all previous quarters. For seasonal reasons, growth from Q3 to Q4 is always higher, in 2013 there was an increase of 17.9%.
- In 2013, some 110,700 terabytes of data were used; this figure was higher by 57.3% than in the previous year and more than 2.5 times higher than in 2011. Thus, since Q1 2011 the data transfer volume has grown by an average of 13.1% each quarter. There appears to be no end to this trend. On the contrary, due to LTE technology, which is on the increase, and the wide range of data-based applications available for mobile terminal devices the data transfer volume is expected to even multiply in the future.

## SIM cards in use

### NUMBER OF SIM CARDS CONSTANT IN Q3 AND Q4

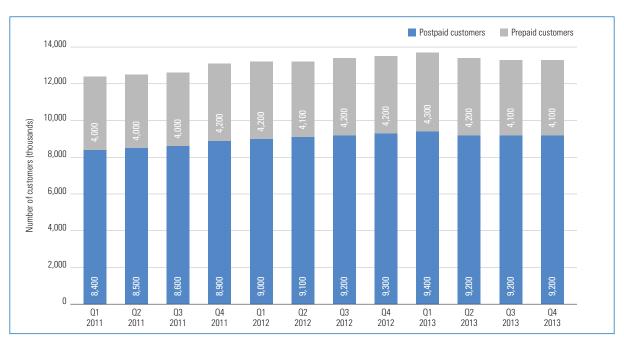


The chart above shows the number of SIM cards activated and in use, broken down into 2G (GSM) and 3G (UMTS) cards.

- Comparing the last two quarters of 2013, the total number of SIM cards remained almost constant, after it had fallen from Q1 to Q2 2013 due to data cleansing carried out by an operator. At the end of 2013, the total number of SIM cards was 13.3 million.
- In addition, one operator now shows all SIM cards only as 3G cards, which led to the changed ratio of 2G to 3G cards in Q3 2013. 3G cards now make up 80.6% of all SIM cards, 2G cards 19.2%.
- In Q4 2013, there were only 32,905 4G cards. Even though their number doubled compared with Q3, it is too small to be included in the chart.
- The share of machine-to-machine (M2M) SIM cards in Q4 2013 was 1.0% (see table at the end of the section).

## Prepaid vs. postpaid SIM cards

### **⇒** RATIO OF POSTPAID TO PREPAID CUSTOMERS STALLING



The chart above shows the number of prepaid and postpaid customers in the mobile communications market. Prepaid customers use SIM cards on which a certain amount of credit (in the form of minutes, text messages, data volume etc.) is stored. Thus, the customer pays for the service in advance. In the case of postpaid customers (also referred to as contract customers), a bill for the service is sent after it has been used (usually on a monthly basis).

- The ratio of prepaid to postpaid customers has remained almost constant since 2012.
- In Q4 2013, the distribution of the 13.3 million SIM cards was almost unchanged against the previous quarter: 69.4% of all mobile customers were postpaid customers and 30.6% were prepaid customers.

## The average SIM card

### FEWER TEXT MESSAGES, CONSTANT MINUTES, MORE DATA

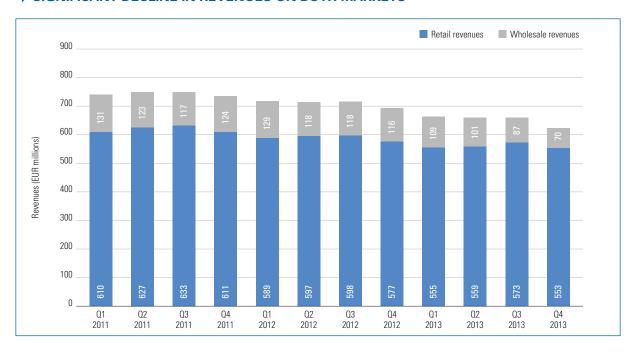


The charts show the average revenues generated, the average number of real minutes and text messages sent as well as the data volume used in megabytes per SIM card in an average month for each quarter. The values are therefore based on one-third of retail customer revenues, real minutes, number of text messages sent and data volumes of a quarter, divided by the total number of activated SIM cards (including mobile broadband cards and M2M SIM cards). The revenues per SIM card depicted shall not be interpreted as prices. Information on the price developments can be found in the price index for mobile communications at the end of the section.

- The average revenue generated per SIM card in Q4 2013 was EUR 13.9 per month and thus fell by 2.1% against the corresponding quarter 2012. The comparison with Q4 2012, however, has to take into account that the number of SIM cards also decreased because of the data cleansing mentioned before.
- The development of call minutes per SIM card and month corresponds to the trend already depicted. Accordingly, the call minutes used are not subject to major changes, apart from seasonal fluctuations. Therefore, it is not surprising that the number of call minutes per subscriber and month at the end of 2013 did not change against the end of 2012.
- Compared with the corresponding quarter of 2012, the number of text messages sent on average per SIM card and month dropped sharply (down 28.3%).
- Unsurprisingly, the data volume per SIM card and month continued to increase sharply. The average data volume in Q4 2013 was about 863 megabytes, this is a rise of 55.6% compared with Q4 2012.

### Total mobile communications revenues

### **⇒** SIGNIFICANT DECLINE IN REVENUES ON BOTH MARKETS

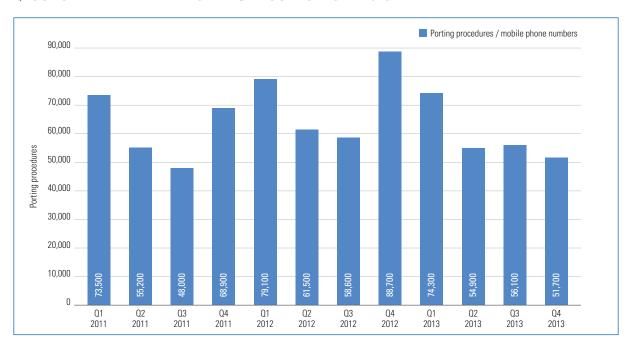


The chart above shows the revenues on the retail and wholesale markets. Retail revenues include all revenues (base fees, activation charges, service charges, connection charges etc.), earned from the company's (own) retail customers in Austria, including revenues earned from roaming. Wholesale revenues are revenues from origination and termination charges, from selling airtime to resellers and revenues from national and international roaming (including MVNO access).

- The chart illustrates the downward trend of total revenues of mobile operators as well as the breakdown into revenues from retail and wholesale customers.
- Total revenues in 2013 amounted to about EUR 2.607 billion, which is a decline of 8.3% against EUR 2.841 billion in 2012.
- 85.9% of total annual revenues were accounted for by retail revenues and 14.1% by wholesale revenues. Both retail revenues and wholesale revenues declined against 2012. Retail revenues were down by 5.1%, wholesale revenues by even 23.7%. The decline in wholesale revenues can be seen in nearly all revenue categories; however, it is greatest in the sale of airtime to resellers (down 86.4%) and termination (particularly text messages; down 29.7%).
- Total revenues from mobile communications were EUR 623.4 million in Q4 2013. Compared with the corresponding quarter of the previous year, revenues thus dropped by 10.0%.

## Porting of mobile telephone numbers

### **⇒** CONSIDERABLY FEWER PORTING PROCEDURES IN 2013

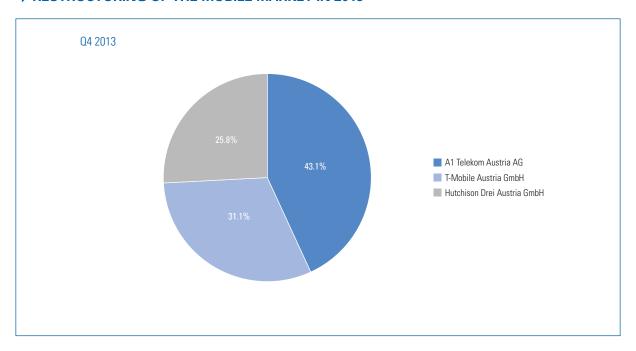


Number porting allows customers to retain their telephone numbers when they switch service providers. The chart above shows the porting procedures/imports of telephone numbers carried out for an operator in one quarter, i.e. SIM cards in the case of mobile operators and subscriber numbers on the fixed network. Reverse portings (e.g. after cancellation by a subscriber) are not considered as porting procedure. If the number of a subscriber is ported several times within a quarter ("subsequent porting"), this is counted separately each time.

- Against Q4 2012, porting procedures of mobile numbers decreased significantly, from 88,700 in Q4 2012 to 51,700 in the same period of 2013, i.e. down 41.7%.
- Over the year, 237,000 mobile numbers were ported in 2013, down 17.7% on the previous year.

## Market shares of mobile service providers in Austria

### **⇒** RESTRUCTURING OF THE MOBILE MARKET IN 2013

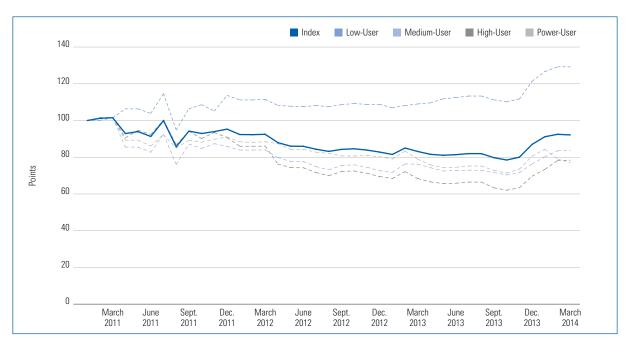


The chart above shows the market shares of mobile operators in Austria based on their subscriber numbers (number of SIM cards used).

- 2013 was characterised by the restructuring of the mobile market. Orange was taken over by Hutchison Drei Austria GmbH, its prepaid and discount product Yesss! went to A1 Telekom Austria AG. The chart shows the new distribution of the mobile market on the basis of the subscriber numbers of the mobile service providers in Q4 2013.
- Accordingly, A1 Telekom is the market leader with a market share of 43.1% or 5.71 million subscribers.
  After the takeover of Yesss! its market share increased by 3.5 percentage points compared with Q4
- T-Mobile Austria GmbH ranks second with a market share of 31.1%. In the past two years, its market share remained almost constant. At the end of 2013, T-Mobile had 4.11 million subscribers.
- Due to the merger with Orange, Hutchison increased its market share in Q4 2013 by 13.3 percentage points to 25.8% against 2012, which is equivalent to 3.42 million subscribers.

### Price index in mobile communications

### **⇒** AGAIN INCREASE IN OVERALL INDEX



For the calculation of the average monthly prices the tariff data published by the Austrian Chamber of Labour on a monthly basis are used and average prices are derived for four different user types: three of these user types are so-called "smartphone users" who use both voice and text messaging services as well as data services. A fourth user type (the low user) exclusively uses voice and text messaging services. Up to five of the respective most economical tariffs per brand are used (see Glossary).

In contrast to the other charts in the RTR Telecom Monitor, this chart does not show the price development on a quarterly but on a monthly basis. As data up to March 2014 are already available, they are also included in the chart.

- In 2013, the first year after market consolidation, mobile communications experienced significant price increases. In particular at the end of 2013, a clear upward trend was observed.
- Since Q4 2013, tariffs have risen markedly across all user types. This is due to numerous tariff increases (of both monthly charges as well as one-off charges like the activation charge etc.) and reductions in subsidies for terminal devices.
- Only the price index for the power user fell again in Q1 2014. This downward trend can be explained by the fact that with effect from February 2014 the data volume included in the youth tariff of A1 Telekom was increased to 2 gigabytes per month, while the monthly charge remained the same. As this tariff, with 2 gigabytes, now comprises the data volume used monthly by the power user, it has been attributed to the power user since February.
- The further decline from February to March 2014 is due to the introduction of the "Max Pur" tariffs of tele.ring.

RETAIL RE	EVENUES F	ком мов	ILE COMM	UNICATION	IS (PAGE 3	9)	
				EUR			
	Total retail revenues	Voice telephony	Text messaging	Data services and value- added data services	Bundled products and base fees	Share of data services in bundled products	

		Total retail revenues	Voice telephony	Text messaging	Data services and value- added data services	Bundled products and base fees	Share of data services in bundled products	Other revenues
	Q1	610,377,233						
2011	02	626,624,060						
2011	03	632,515,400						
	Q4	611,141,328						
	Q1		183,393,113	35,977,945	69,922,551	289,241,172	18.1%	10,792,583
2012	02		185,753,927	39,396,530	74,656,237	287,283,563	17.5%	9,893,769
2012	03		186,634,996	37,213,168	66,780,985	297,115,537	16.9%	10,132,284
	Q4		160,461,545	36,137,249	64,888,265	305,153,204	16.5%	10,288,462
	Q1		146,459,491	29,730,824	60,701,228	308,466,400	16.5%	9,644,009
2012	02		150,603,221	28,444,167	64,444,548	308,550,091	15.8%	6,851,369
2013	03		147,712,506	28,970,715	74,645,871	317,975,220	16.3%	3,706,136
	Q4		133,526,449	26,827,217	71,040,035	317,931,169	16.1%	3,837,465

### **CALL MINUTES ON THE RETAIL MARKET (PAGE 40)**

		Real minutes
	Q1	5,557,671,608
2011	Q2	5,556,743,787
2011	03	5,364,599,431
	Q4	5,705,787,396
	Q1	5,788,072,050
2012	02	5,734,784,353
2012	Q3	5,537,818,294
	Q4	5,771,290,667
	Q1	5,711,663,968
2013	02	5,732,826,273
2013	03	5,431,953,366
	Q4	5,637,233,118

### TEXT MESSAGES (PAGE 41)

		Text messages sent (technical measurement)
	Q1	1,725,954,985
2011	Q2	1,779,843,615
	03	1,758,186,234
	Q4	2,018,375,997
	Q1	1,984,876,550
2012	Q2	2,003,805,415
2012	03	1,835,394,527
	Q4	1,929,827,033
	Q1	1,677,485,280
2013	02	1,541,179,929
2013	Q3	1,348,486,974
	Q4	1,349,464,137

	DATA VOLUME (RETAIL MARKET) (PAGE 42)						
		Retail upload/download volume (megabytes)					
	Q1	8,921,282,869					
2011	02	9,640,975,664					
2011	03	10,968,507,825					
	Q4	13,961,403,983					
	Q1	15,941,607,958					
2012	02	16,740,230,488					
2012	03	18,512,934,796					
	Q4	22,613,660,102					
	Q1	25,900,761,126					
2013	02	26,700,365,708					
2013	03	29,155,606,101					
	Q4	34,364,913,863					

### **SIM CARDS IN USE (PAGE 43)**

		Number of SIM cards					
		2G SIM cards	thereof M2M SIM cards				
	Q1	6,257,189	6,131,590				
2011	Q2	6,130,538	6,368,301				
2011	Q3	6,022,979	6,632,571				
	Q4	5,996,070	7,026,508				
2012 -	Q1	4,524,684	8,677,898	223	86,351		
	02	4,393,808	8,838,573	287	93,497		
	Q3	4,346,491	9,059,562	380	100,652		
	Q4	4,206,611	9,381,291	461	107,621		
	Q1	4,241,772	9,421,539	628	109,343		
0040	02	3,909,645	9,488,201	10,220	113,861		
2013	03	2,680,314	10,538,191	17,281	117,423		
	Q4	2,547,291	10,691,826	32,905	127,797		

### PREPAID VS. POSTPAID SIM CARDS (PAGE 44)

		Number of customers				
		Postpaid customers	Prepaid customers			
	Q1	8,433,436	3,955,343			
2011	02	8,513,940	3,984,899			
2011	03	8,621,693	4,033,857			
	Q4	8,854,952	4,167,626			
	Q1	9,043,684	4,159,121			
2012	02	9,094,056	4,138,612			
2012	Q3	9,185,425	4,221,008			
	Q4	9,345,338	4,243,025			
	Q1	9,391,702	4,272,237			
2012	02	9,172,226	4,235,840			
2013	Q3	9,173,165	4,062,621			
	Q4	9,210,558	4,061,464			

	TOTAL MO	BILE COMMUNICATIONS REVEN	IUES (PAGE 46)
		E	EUR
		Retail revenues	Wholesale revenues
	Q1	610,377,233	130,587,523
2011	02	626,624,060	123,311,439
2011	03	632,515,400	116,450,153
	Q4	611,141,328	124,371,586
	Q1	589,327,364	128,953,660
2012	02	596,984,026	117,581,408
2012	03	597,876,970	118,034,261
	Q4	576,928,725	115,801,148
	Q1	555,001,952	108,528,286
2013	02	558,893,396	100,664,631
2013	03	573,010,448	87,314,584
	04	553,162,335	70,247,758

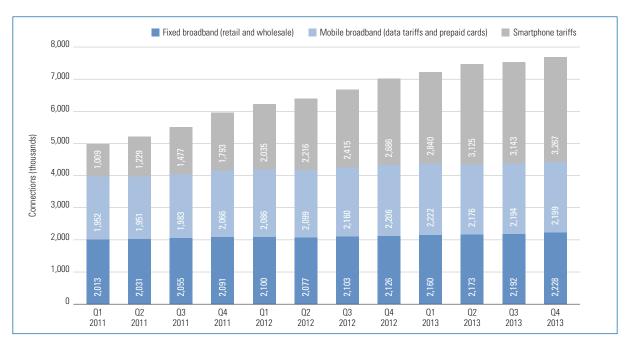
	PORTING OF MOBILE TELEPHONE NUMBERS (PAGE 47)						
		Number of porting procedures of mobile phone numbers					
	Q1	73,542					
2011	02	55,204					
2011	Q3	48,038					
	Q4	68,873					
	Ω1	79,092					
2012	02	61,525					
2012	Q3	58,576					
	Q4	88,745					
	Q1	74,292					
2013	02	54,855					
2013	03	56,082					
	Q4	51,719					

## 4 | Broadband



## Fixed and mobile broadband connections

### **▶** MARKED INCREASES IN SMARTPHONE TARIFFS AND FIXED BROADBAND

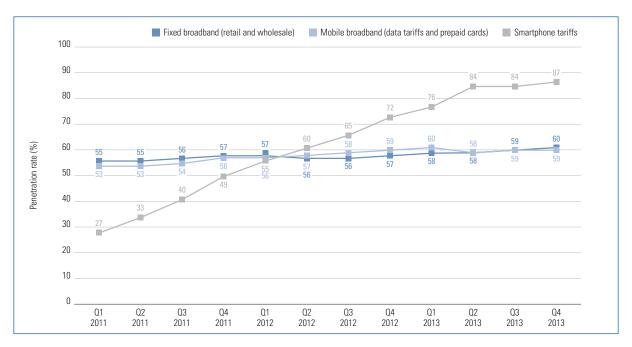


The chart above shows the total number of fixed and mobile broadband connections. With mobile broadband, mobile data tariffs and smartphone tariffs are distinguished. For the definitions of fixed broadband connections as well as mobile data tariffs and smartphone tariffs see Glossary.

- At the end of last year, total broadband connections numbered 7.7 million. Thus, the number of broadband connections rose by 9.6% in the year under review.
- Smartphone tariffs experienced a veritable boom with an increase of 21.6% as compared to the end of 2012. 3.27 million customers used Internet services on their mobile phones at the end of 2013.
- Fixed broadband grew by 4.7% in the period under review, with about 2.23 million connections at the end of 2013.
- Contrary to the trend seen in the above-mentioned connections, mobile broadband decreased slightly (down 0.3%). However, this decline is primarily attributable to data cleansing in respect of unused SIM cards carried out by operators. This category comprised some 2.2 million connections at the end of last year.

## Broadband penetration

### **⇒** AROUND NINE OUT OF TEN HOUSEHOLDS USE A SMARTPHONE TARIFF



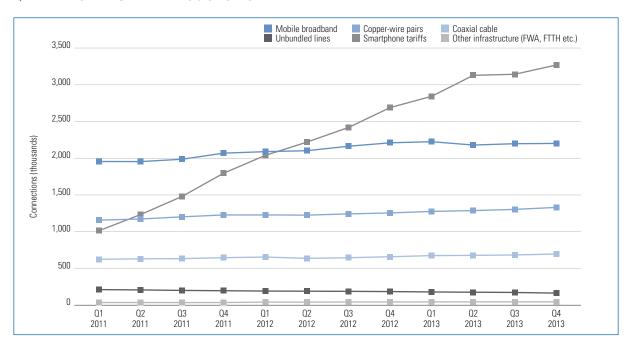
Source: RTR, Statistics Austria (number of households)

Broadband penetration refers to the ratio of fixed and mobile broadband connections to the total number of households in Austria. Calculation of the penetration rate also includes broadband connections used in businesses.

- Broadband penetration for smartphone tariffs rose from 72% at the end of 2012 to 87% at the end of 2013. Until mid-2013 this increase was particularly dynamic.
- The penetration rates of fixed and mobile broadband remained almost unchanged, between 58 and 60% in 2013.

# Retail broadband connections by type of infrastructure

### **⇒** LITTLE CHANGE IN THE COURSE OF THE YEAR

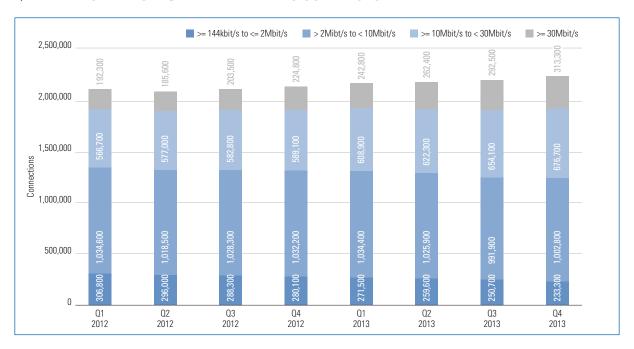


The chart above shows the total number of fixed and mobile broadband connections in Austria by infrastructure used. For the infrastructure of fixed broadband connections see Glossary. The data underlying this chart are contained in the table at the end of the section.

- Copper-wire pair connections on the basis of own infrastructure increased by 6.1% over the year, whereas unbundled lines fell by 9.3%.
- Between the end of 2012 and the end of 2013, the number of coaxial cable connections rose by 5.9%.
- The most significant changes were seen in other broadband connections: FWA connections dropped by 13.3% throughout 2013, optical fibre connections (FTTH) increased by 18.4% over the same period. However, altogether both connection types accounted only for 0.5% of all broadband connections.

# Retail broadband connections by bandwidth category — fixed network

### **⇒** TREND TOWARDS HIGHER BANDWIDTHS CONTINUES

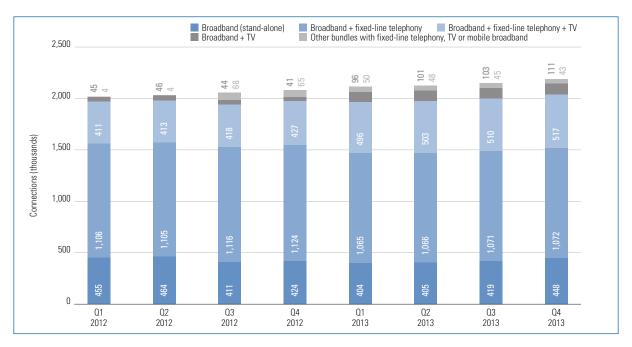


The chart above shows the total number of fixed broadband connections in Austria, broken down by bandwidth categories. Because of the small number of cases, categories with low bandwidths (>= 144 kbit/s to < 2 Mbit/s and 2 Mbit/s) and categories with high bandwidths (30 Mbit/s to < 100 Mbit/s and >= 100 Mbit/s) were combined. The categories in between (> 2 Mbit/s to < 10 Mbit/s and 10 Mbit/s to < 30 Mbit/s) are unchanged. All categories are shown separately in the table at the end of the section.

- The majority of retail broadband connections (45.0%) fell into the > 2 Mbit/s to < 10 Mbit/s category and numbered some 1.0 million connections at the end of 2013. This figure decreased by 2.8% in the course of the year.
- In contrast, higher bandwidths grew considerably. About 677,000 connections were reported at the end of 2013 in the >= 10 Mbit/s to < 30 Mbit/s bandwidth category, i.e. 30.4% of all fixed broadband connections. Thus, the connections in this bandwidth category rose by 14.9% against the end of 2012.
- Bandwidths greater than 30 Mbit/s increased even more significantly by 39.3% over the year and amounted to some 14.1% of all broadband connections at the end of 2013.
- Smaller bandwidths (>= 144kbit/s to <= 2Mbit/s) increasingly lost significance (down 16.7%) and accounted only for 10.5% of all broadband connections at the end of 2013.

## Number of retail broadband connections — fixed network

### TV DRIVES PRODUCTS BUNDLED WITH BROADBAND

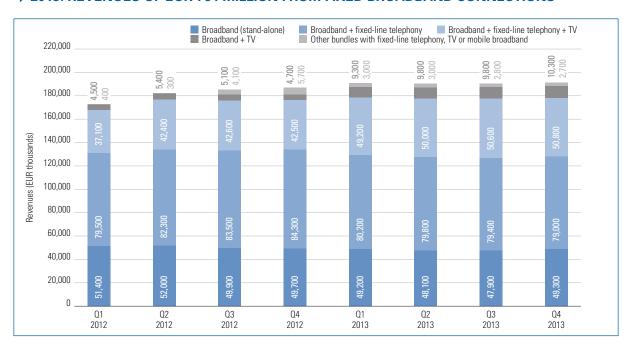


The chart shows the number of broadband products provided to retail customers. Broadband products may be sold without any other product (stand-alone) or can be a combination of broadband with one or more other products (bundled product), for example, broadband and fixed network and/or TV.

- The number of fixed broadband connections rose by 5.3% in the course of 2013 and amounted to some 2.19 million connections at the end of the year. About one fifth of these fixed broadband connections are offered as stand-alone products, i.e. not bundled with other telecommunications products. Specifically, there were about 447,600 connections, which is an increase of 5.7% throughout the year.
- The most popular combination in 2013 was fixed broadband combined with fixed-line voice telephony. Almost every other bundled tariff (48.9%) was composed of these two components at the end of 2013. However, in the course of 2013, a decline of 4.6% was recorded.
- A marked increase (up 21.1%) was seen for the combination of fixed broadband, fixed-line telephony and TV. This bundle type was used some 517,100 times mainly by customers of cable providers; this corresponds to 23.6% of all fixed broadband connections. TV as add-on product seems to be accountable for this increase because the combination of broadband and TV soared by even 170.9% throughout 2103 and stood at about 111,400 connections at the end of 2013 (5.1% of the retail broadband connections reported here).
- Other bundles increasingly lost ground (down 33.8% in the course of 2013) and altogether accounted for only 2% of all bundled products at the end of the year.

# Revenues from retail broadband connections — fixed network

### ⇒ 2013: REVENUES OF EUR 764 MILLION FROM FIXED BROADBAND CONNECTIONS

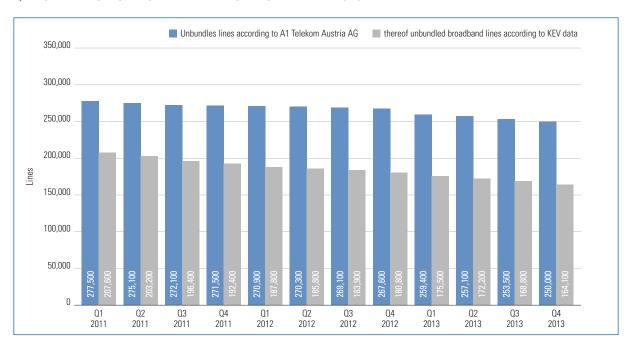


The chart shows the revenues from broadband connections provided to retail customers using own infrastructure or an unbundled line. This includes broadband stand-alone products and bundled products where broadband is offered in combination with another product (voice telephony and/or TV and/or other products).

- In Q4 2013, products bundled with fixed broadband generated revenues of EUR 192.1 million, i.e. up 2.8% on Q4 212. Comparing the annual revenues, the difference is even more pronounced: EUR 764.1 million in 2013 against EUR 727.6 million in 2013, this is an increase in revenues of 5.0%.
- Stand-alone broadband contributed some EUR 49.3 million (25.7%) to total broadband revenues in Q4 2013, which is 0.8% less than at the end of 2012.
- In line with the development of the number of products bundled with broadband, bundles with TV (broadband, fixed-line telephony and/or TV) posted the biggest revenue gains. Revenues from the combination of broadband, fixed-line telephony and TV rose by 19.5% against Q4 2012, those from the combination of broadband and TV more than doubled (up 116.1%). Altogether, these two products accounted for about 31.8% of broadband revenues in the last guarter.
- The largest portion of the revenue pie was accounted for by the combination of broadband and fixed-line telephony (41.1%); however, this figure was down by 6.3% on Q4 2012.

## Unbundled lines of A1 Telekom Austria

### NUMBER OF UNBUNDLED LINES DECLINED IN 2013

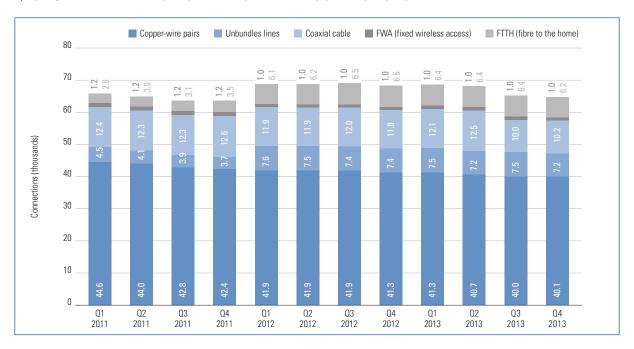


The chart above shows the unbundled lines in the network of A1 Telekom Austria AG. It depicts all lines unbundled by A1 Telekom (supply-side) in comparison to the unbundled broadband lines used by other operators (demand-side) according to the KEV.

- At the end of 2013, A1 Telekom reported about 250,000 unbundled lines, i.e. down 6.6% on the end of 2012.
- According to the data collected under the KEV, some 164,100 of these lines were used as unbundled broadband lines in Q4 2013, which was also a decline (9.2%) compared with Q4 2012.
- The difference between unbundled lines and unbundled broadband lines is accounted for by unbundled lines used exclusively for voice services or for leased lines.

### Number of wholesale broadband connections

### **⇒** SLIGHT FALL IN WHOLESALE BROADBAND CONNECTIONS

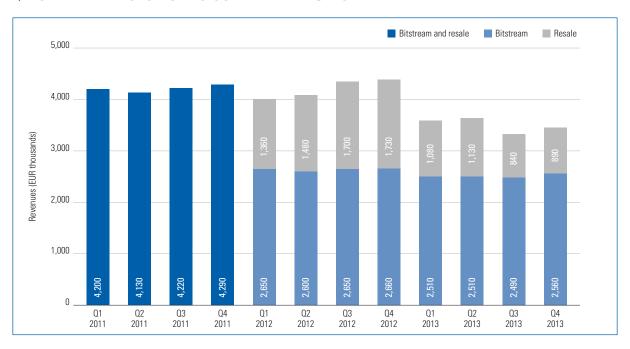


This chart shows the number of broadband connections (bitstream or resale) provided to other communications service providers on the wholesale market on the supplier's own infrastructure or on leased infrastructure (unbundled) for connecting to retail customers (or for resale) – classified by the infrastructure used. The data underlying this chart can be found in the table at the end of this section.

- Compared with the end of 2012, the number of wholesale broadband connections decreased by 4.6% to nearly 66,300. (This number includes other connections not shown in the above chart such as connections by satellite; for details please see the table at the end of the section.)
- At the end of 2013, 60.5% of these were copper-wire pairs (about 40,100). This figure declined by 3.0% on that of the previous year.
- 10.9% of all wholesale broadband connections (7,200) were wholesale connections based on unbundled lines, which was a decline of 2.0% compared with 2012.
- 15.4% of wholesale broadband connections were realised using cable connections (10,200). This figure fell by 14.1% against the end of 2012. Partly, this was due to the fact that one operator took over its wholesale supplier in the course of 2013, with the effect that this supplier's former wholesale broadband connections now qualify as the operator's own connections and therefore the number of connections at the wholesale level declined.
- FTTH connections accounted for 9.4% of connections on the wholesale market (6,250), down 4.3% against the end of 2012.
- The remaining connections (FWA and other broadband connections) accounted only for some 3.7% of connections (2,450), increasing by 3.7% throughout 2013.

## Revenues from wholesale broadband connections

### **⇒ LOWER REVENUES DUE TO COMPANY MERGERS**

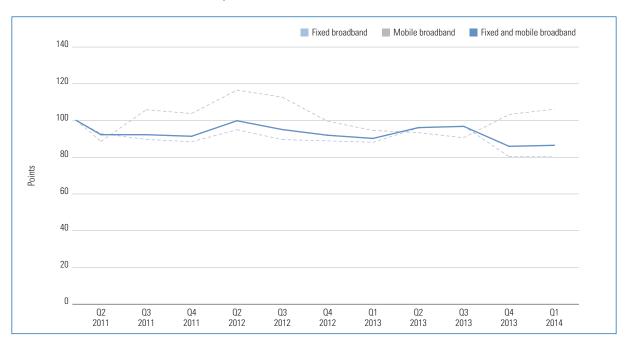


Revenues from broadband connections supplied on the wholesale market include one-off charges (e.g. installation charges, setup and activation charges) and ongoing charges plus any charges for data transfer etc. A distinction is made between bitstream and resale (see Glossary).

- Wholesale revenues from broadband connections fell by 21.6% since Q4 2012 and amounted to roughly EUR 3.5 million in the last quarter of 2013.
- This is mainly due to losses in wholesale revenues due to company mergers.
- In 2013, total wholesale revenues were about EUR 14.0 million. Compared with EUR 16.8 million in 2012, this was a decline of 16.8%. With nearly three fourths of wholesale revenues, the lion's share was accounted for by bitstream revenues. In Q4 2013, bitstream revenues amounted to around EUR 2.6 million, these revenues were down 4.0% compared with the last guarter of 2012.
- Resale revenues amounted to EUR 887,000 in Q4 2013. Due to the mentioned changes on the wholesale market, this was only about half the amount of that in the reference quarter of 2012.

## Price index for broadband (hedonic)

### FIXED-LINE INDEX CONSTANT, MOBILE INDEX RISING



The broadband index is a hedonic price index for fixed and mobile broadband products. Hedonic means that both price changes and changes in the product characteristics (in particular download rate and download volume) are taken into account. For this purpose, a regression of prices on product characteristics and on time variables is performed

For the calculation, tariffs and product characteristics of the broadband products of the major suppliers (currently A1 Telekom, UPC, Tele2, LIWEST, Salzburg AG, Kabelplus, Russmedia IT, T-Mobile, Hutchison Drei Austria) are collected quarterly (up to 2012 only three times a year). Both stand-alone broadband products and products bundled with fixed-line telephony or TV are captured. In the case of mobile broadband, prepaid tariffs are not included. In addition to monthly charges, also one-off charges and annual charges as well as special offers are taken into account. The most expensive 10% of the tariffs (currently tariffs exceeding EUR 65) are not included in the calculation, as they can be assumed to be in low demand by customers. The remaining tariffs are weighted in proportion to the operators' market shares in the respective quarter. In the calculation all tariffs of an operator are given the same weights. The reference basis is 2010.

As data up to March 2014 are already available, they are included in the chart.

- In 2013, the index values (base year 2010) of the hedonic broadband prices for fixed and mobile broadband were similar in level; however, at the end of 2013, the hedonic prices developed into different directions. This trend also continued in Q1 2014, even though less pronounced than in Q4 2013.
- The rise in hedonic prices for mobile broadband in Q1 2014 was caused by A1 Telekom and T-Mobile raising or charging activation charges.
- Prices and products in the fixed network remained largely unchanged from the previous quarter.

FIXED AND MOBILE BROADBAND CONNECTIONS (PAGE 54)
--

		Number of connections					
		Fixed broadband (retail and wholesale)	Mobile broadband (data tariffs and prepaid cards)	Smartphone tariffs			
	Q1	2,013,330	1,951,706	1,009,251			
0044	02	2,030,921	1,950,907	1,228,897			
2011	Q3	2,055,113	1,982,638	1,476,573			
	Q4	2,090,596	2,065,641	1,793,289			
	Q1	2,100,354	2,085,851	2,034,629			
0040	02	2,077,089	2,098,970	2,215,933			
2012	Q3	2,102,865	2,159,574	2,415,128			
	Q4	2,126,193	2,206,340	2,685,591			
	Q1	2,157,625	2,221,628	2,839,581			
	02	2,170,133	2,175,993	3,125,017			
2013	Q3	2,189,265	2,194,068	3,143,122			
	Q4	2,226,056	2,199,081	3,266,973			

### RETAIL BROADBAND CONNECTIONS BY TYPE OF INFRASTRUCTURE (PAGE 56)

		Number of connections						
		Copper-wire pairs	Unbundled lines	Coaxial cable	FWA (fixed wireless access)	FTTH (fibre to the home)	Mobile broadband	Smartphone tariffs
	Q1	1,153,748	207,615	620,228	23,731	8,008	1,951,706	1,009,251
2011	02	1,169,080	203,183	626,967	22,559	9,132	1,950,907	1,228,897
2011	03	1,198,529	196,412	629,075	21,651	9,447	1,982,638	1,476,573
	Q4	1,223,952	192,400	642,537	20,853	10,854	2,065,641	1,793,289
	Q1	1,224,491	187,837	650,923	20,573	16,530	2,085,851	2,034,629
0040	02	1,221,632	185,824	632,817	19,565	17,252	2,098,970	2,215,933
2012	03	1,238,525	183,929	641,610	18,705	20,095	2,159,574	2,415,128
	Q4	1,251,657	180,836	654,791	18,190	20,720	2,206,340	2,685,591
	Q1	1,271,809	175,501	670,673	17,829	21,812	2,221,628	2,839,581
2013	02	1,283,560	172,223	673,876	17,151	23,323	2,175,993	3,125,017
2013	03	1,300,033	168,788	679,216	16,849	24,380	2,194,068	3,143,122
	Q4	1,328,008	164,068	693,680	15,764	24,535	2,199,081	3,266,973

### RETAIL BROADBAND CONNECTIONS BY TYPE OF INFRASTRUCTURE - RESIDENTIAL CUSTOMERS

		Number of connections (retail customers)						
		Copper-wire pairs	Unbundled lines	Coaxial cable	FWA (fixed wireless access)	FTTH (fibre to the home)	Mobile broadband	Smartphone tariffs
	Q1	1,070,447	142,865	641,026	18,784	9,100	1,905,693	1,803,611
2012	Q2	1,069,119	141,434	622,758	17,777	9,441	1,869,635	1,981,541
2012	Q3	1,085,150	139,752	631,421	16,907	10,079	1,924,943	2,156,420
	Q4	1,099,744	137,077	644,507	16,397	10,149	1,964,911	2,410,938
	Q1	1,120,387	132,969	660,041	16,033	11,047	1,974,606	2,554,935
2013	Q2	1,132,368	130,412	662,216	15,353	11,644	1,914,988	2,816,408
2013	Q3	1,149,703	127,040	666,476	15,042	11,714	1,939,149	2,831,370
	Q4	1,177,329	123,509	673,184	13,943	11,736	1,939,576	2,943,431

### RETAIL BROADBAND CONNECTIONS BY TYPE OF INFRASTRUCTURE – BUSINESS CUSTOMERS

		Number of connections (business customers)						
		Copper-wire pairs	Unbundled lines	Coaxial cable	FWA (fixed wireless access)	FTTH (fibre to the home)	Mobile broadband	Smartphone tariffs
	Q1	154,044	44,971	9,897	1,790	7,430	180,158	231,018
2012	Q2	152,513	44,390	10,059	1,787	7,811	229,335	234,392
2012	Q3	153,375	44,177	10,189	1,798	10,016	234,631	258,708
	Q4	151,913	43,760	10,284	1,793	10,571	241,429	274,653
	Q1	151,422	42,532	10,632	1,796	10,765	247,022	284,646
2013	Q2	151,192	41,810	11,660	1,797	11,679	261,005	308,609
2310	Q3	150,330	41,747	12,740	1,807	12,666	254,919	311,752
	Q4	150,679	40,560	20,496	1,821	12,799	259,505	323,542

### RETAIL BROADBAND CONNECTIONS BY BANDWIDTH CATEGORY - FIXED NETWORK (PAGE 57)

		Number of connections					
		>= 144 kbit/s to < 2 Mbit/s	= 2 Mbit/s	> 2 Mibt/s to < 10 Mbit/s	>= 10 Mbit/s to < 30 Mbit/s	>= 30 Mbit/s to < 100 Mbit/s	>= 100 Mbit/s
	Q1	25,614	281,158	1,034,586	566,717	158,580	33,700
0040	Q2	23,422	272,609	1,018,469	576,992	153,369	32,228
2012	Q3	21,791	266,500	1,028,281	582,842	169,684	33,768
	Q4	19,738	260,377	1,032,168	589,068	189,932	34,910
	Q1	18,140	253,339	1,034,440	608,865	206,698	36,142
2013	Q2	15,918	243,715	1,025,871	622,256	225,038	37,335
2013	Q3	14,170	236,547	991,926	654,081	252,772	39,769
	Q4	13,081	220,232	1,002,806	676,655	273,202	40,080

### NUMBER OF RETAIL BROADBAND CONNECTIONS – FIXED NETWORK (PAGE 58)

		Number of connections						
		Broadband (stand-alone)	Broadband + fixed-line telephony	Broadband + fixed-line telephony + TV	Broadband + TV	Other bundles with fixed-line telephony, TV or mobile broadband		
	Q1	455,080	1,105,550	410,722	45,221	3,766		
2012	Q2	464,341	1,105,020	412,508	45,705	3,767		
2012	03	410,877	1,115,516	417,512	44,389	68,278		
	Q4	423,599	1,123,949	426,958	41,139	64,864		
	Q1	403,711	1,065,348	496,242	96,385	49,773		
2013	Q2	405,382	1,065,812	503,401	100,762	47,791		
2010	03	418,531	1,071,069	509,564	103,390	45,262		
	Q4	447,589	1,071,823	517,104	111,444	42,964		

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		EUR					
		Broadband (stand-alone)	Broadband + fixed-line telephony	Broadband + fixed-line telephony + TV	Broadband + TV	Other bundles with fixed-line telephony, TV or mobile broadband	
	Ω1	51,395,971	79,534,260	37,086,849	4,542,493	439,926	
2012	02	52,006,198	82,274,891	42,433,558	5,447,344	318,463	
2012	Q3	49,897,886	83,470,879	42,580,682	5,111,059	4,106,514	
	Q4	49,716,726	84,316,836	42,484,725	4,747,697	5,687,553	
	Ω1	49,184,069	80,165,874	49,224,907	9,267,349	3,023,805	
2013	02	48,126,225	79,782,919	49,993,725	9,816,964	3,005,555	
2010	Q3	47,851,077	79,403,452	50,561,245	9,786,820	2,825,119	
	Q4	49,338,686	79,020,554	50,777,375	10,262,134	2,724,955	

### NUMBER OF WHOLESALE BROADBAND CONNECTIONS (PAGE 61)

				Number of	connections		
		Copper-wire pairs	Unbundled lines	Coaxial cable	FWA (fixed wireless access)	FTTH (fibre to the home)	Others (satellite etc.)
	Q1	44,629	4,509	12,381	1,182	2,848	51,183
2011	Q2	43,965	4,105	12,347	1,182	3,023	50,867
2011	03	42,805	3,924	12,326	1,182	3,145	166,755
	Q4	42,416	3,661	12,565	1,182	3,500	13,839
	Q1	41,911	7,625	11,880	976	6,059	1,487
2012	Q2	41,946	7,460	11,927	969	6,187	1,487
2012	03	41,865	7,405	11,977	970	6,483	1,484
	Q4	41,326	7,359	11,849	966	6,527	1,482
	Q1	41,294	7,491	12,051	976	6,372	1,545
2242	Q2	40,711	7,194	12,457	977	6,402	1,544
2013	03	40,008	7,522	9,968	987	6,441	1,535
	Q4	40,105	7,209	10,177	990	6,248	1,550

### NUMBER OF WHOLESALE BROADBAND CONNECTIONS – BITSTREAM

		Number of connections					
		Copper-wire pairs	Unbundles lines	Coaxial cable	FWA (fixed wireless access)	FTTH (fibre to the home)	
	Q1	41,882	5,640	8,396	953	6,049	
0040	02	41,917	5,513	8,490	946	6,176	
2012	Q3	41,836	5,431	8,548	947	6,450	
	Ω4	41,297	5,311	8,417	943	6,494	
	Ω1	41,265	4,930	8,563	953	6,360	
2013	02	40,682	4,762	11,257	954	6,390	
2010	Q3	39,979	4,665	8,754	964	6,428	
	Q4	40,076	4,266	8,937	967	6,239	

**Q**2

Q3

Q4

2013

29

29

29

12

13

9

NUMBER OF WHOLESALE BROADBAND CONNECTIONS – RESALE							
				Number of connections			
		Copper-wire pairs	Unbundles lines	Coaxial cable	FWA (fixed wireless access)	FTTH (fibre to the home)	
	Q1	29	1,985	3,484	23	10	
2012	02	29	1,947	3,437	23	11	
2012	Q3	29	1,974	3,429	23	33	
	Ω4	29	2,047	3,432	23	33	
	Q1	29	2,561	3,488	23	12	

2,432

2,857

2,943

1,200

1,214

1,240

23

23

23

REVENUES FROM WHOLESALE BROADBAND CONNECTIONS (PAGE 62)						
			EUR			
		Bitstream und resale	Bitstream	Resale		
	Ω1	4,195,355				
2011	Ω2	4,130,218				
2011 Q3 Q4	03	4,223,692				
	Ω4	4,291,888				
	Ω1		2,652,488	1,360,357		
2012	02		2,604,514	1,477,810		
2012	03		2,647,682	1,699,153		
	Ω4		2,662,623	1,730,020		
	Ω1		2,508,790	1,079,161		
2012	Ω2		2,510,536	1,129,467		
2013	03		2,492,150	839,226		
	04		2,555,061	886,678		

NUMBER OF RETAIL FIXED BROADBAND CONNECTIONS BY CUSTOMER TYPE							
		Number of connections					
		Residential customers	Business customers	Total			
01 02	Ω1	1,821,974	198,365	2,020,339			
	02	1,834,553	196,787	2,031,340			
2012	Q3	1,858,323	198,248	2,056,572			
	Q4	1,883,878	196,631	2,080,509			
	Q1	1,916,513	194,946	2,111,459			
2013	Ω2	1,929,449	193,699	2,123,148			
2013	Q3	1,953,344	194,473	2,147,817			
	Q4	1,996,810	194,114	2,190,924			

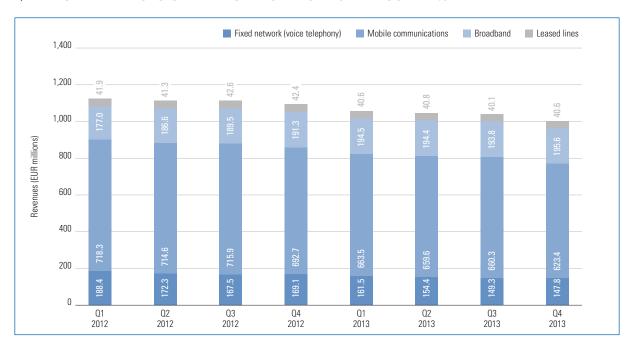
REVE	REVENUES FROM RETAIL FIXED BROADBAND CONNECTIONS BY CUSTOMER TYPE							
			EUR					
		Residential customers	Business customers	Total				
	Q1	138,006,483	34,993,016	172,999,499				
2012	Ω2	146,830,712	35,649,742	182,480,454				
2012	03	148,580,912	36,586,109	185,167,020				
	Q4	150,228,748	36,724,791	186,953,539				
	Q1	154,498,877	36,367,127	190,866,004				
2013	02	154,464,911	36,260,478	190,725,389				
2010	03	154,281,840	36,145,872	190,427,712				
	Ω4	156,202,427	35,921,276	192,123,703				

## 5 | Comparisons across sectors



## Revenues from fixed, mobile, broadband and leased line services

### **⇒** ANNUAL REVENUES OF TELEKOM DOWN ON 2012 BY SOME 7%



The chart includes revenues from the following categories:

**Fixed network (voice telephony):** Retail revenues from residential and business customers (except for bundles with broadband) as well as public pay phones (phone booths), wholesale revenues, revenues from additional services, other fees and remuneration pursuant to the Telecommunications Fee Subsidies Act;

**Mobile communications**: Retail revenues from periodic base fees, activation charges, connection charges and data services, remuneration pursuant to the Telecommunications Fee Subsidies Act, wholesale revenues from termination, origination, international roaming, national roaming, sale of airtime to resellers (see Glossary);

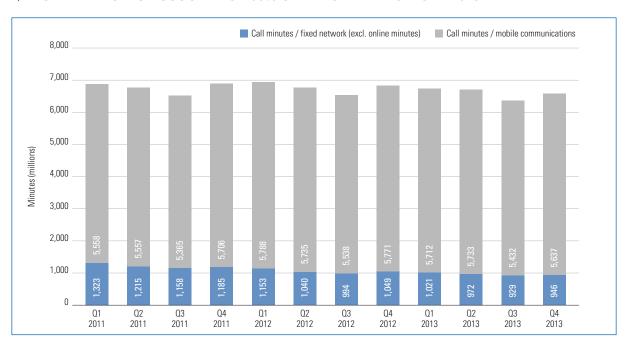
**Broadband (fixed network):** Retail revenues (including revenues from products bundled with broadband) and whole-sale revenues from setup charges, ongoing charges and volume-based charges;

Leased lines: Retail revenues from periodic base fees and setup charges for domestic retail leased lines, wholesale revenues from terminating segments and trunk segments (see Glossary).

- In 2013, total revenues in the telecommunications sector amounted to EUR 4.160 billion, which is a decline of 6.5% compared with 2012.
- As in previous years, the largest share (62.7%) was again generated from mobile services, with revenues of some EUR 2.607 billion.
- The second largest proportion of revenues (18.7%) was accounted for by broadband revenues including, however, periodic base fees for bundled products that comprise, for example, also fixed-network or TV services. Altogether, broadband revenues amounted to EUR 778.1 million in 2013.
- Fixed-line voice telephony generated revenues of EUR 613.0 million, i.e. 14.7% of total revenues.
- Revenues from leased lines amounted to some EUR 162.0 million, about 3.9% of annual revenues in the telecommunications sector.

## Real minutes in fixed and mobile networks

### **➡ MOBILE MINUTES ACCOUNT FOR 85% OF ALL CALL MINUTES IN 2013**



The chart above shows the number of real minutes (in million) in the following segments:

**Mobile communications:** Call minutes to the domestic fixed network, domestic mobile networks, international numbers, service numbers and directory assistance services;

**Fixed network**: Call minutes to the domestic fixed network, domestic mobile networks, international numbers, service numbers and directory assistance services.

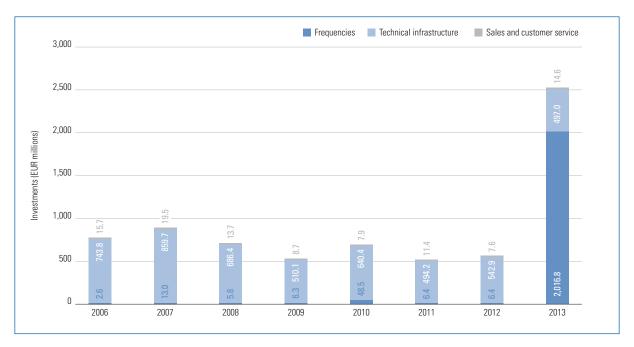
- In 2013, the total number of call minutes in fixed and mobile networks amounted to 26.382 billion minutes, down 2.5% on 2012.
- As in previous years, customers clearly preferred mobile communications: in 2013, mobile calls accounted for 85.3% of all minutes (22.514 billion). Compared to 84.4% in 2012, this tendency is still slightly on the rise.
- Total call minutes in the fixed network declined by 8.7% on the previous year. In 2013, calls amounting to 3.868 billion minutes were made from fixed networks, i.e. 14.7% of total call minutes.

## 6 | Business indicators



### Investments

#### **➡ TWO-BILLION INVESTMENT IN FREQUENCIES FOR THE NEXT 20 YEARS**



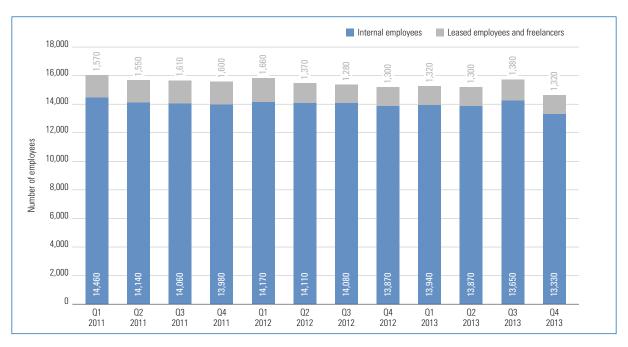
The chart above shows the development of investments in frequencies, technical infrastructure as well as sales and customer service on an annual basis. In this context, it is important to note that the values reported here are partly based on estimates and extrapolations from individual quarters for entire years. As a result, the exact figure for total investments cannot be calculated reliably.

The investment volumes shown above only include those investments made directly by telecommunications enterprises. They do not include investments by upstream or downstream industry sectors.

- The year 2013 was characterised by the multiband auction in which frequencies from the 800 MHz (digital dividend), 900 MHZ and 1800 MHz frequency ranges were allocated. The objective of this auction was above all to pave the way for new technologies such as LTE. Frequency allocation took the form of a combinatorial clock auction, a procedure already used in the allocation of 2.6 GHz frequencies. The procedure was completed with final effect in November 2013 when the decisions were executed and generated auction proceeds of about EUR 2.014 billion for the Republic of Austria. Two enterprises filed complaints to the Austrian Constitutional Court (VfGH) and the Austrian Administrative Court (VwGH) against the TKK frequency decision. The VfGH assigned the complaint to the VwGH, the decision by the VwGH was still pending when the RTR Telecom Monitor was prepared.
- This auction is expected to prompt further investments in sales and technical infrastructure in the next few years. In the field of sales and customer service, investments already increased in 2013 by 91.5% to EUR 14.6 million. Even though investments in technical infrastructure experienced a decline of 8.5% to EUR 497.0 million compared with 2012, a major investment boost is expected to occur in the years to come.

### Employees in the telecommunications sector

### **CONTINUING DECLINE IN THE NUMBER OF EMPLOYEES**



The chart above shows the number of employees in the telecommunications sector, broken down into internal employees, leased employees and freelancers, and expressed in terms of full-time equivalents.

When interpreting these figures, please note that they only include staff employed directly by telecommunications enterprises. The figures do not include employees in supplier industries, external call-centre employees or outsourced positions.

- The number of employees in the telecommunications sector is continuously declining over time. At the end of 2013, the total number of employees was about 14,650, down 3.4% on the previous year.
- Of all persons employed in this sector, permanent employees accounted for 91.0%; the share of leased employees was 9.0%.

INVESTMENTS (PAGE 74)					
		EUR			
	Frequencies	Technical infrastructure	Sales and customer service	TOTAL	
2003	742	126,346,912	3,182,765	129,530,419	
2004	1,142,649	562,781,658	12,431,474	576,355,781	
2005	2,383,899	760,832,230	8,233,018	771,449,147	
2006	2,581,636	743,762,925	15,689,120	762,033,682	
2007	13,027,172	859,669,726	19,544,569	892,241,468	
2008	5,806,481	686,385,738	13,681,417	705,873,636	
2009	6,266,141	510,088,491	8,722,572	525,077,204	
2010	48,471,900	640,352,400	7,901,463	696,725,763	
2011	6,391,794	494,222,664	11,412,617	512,027,075	
2012	6,417,316	542,940,282	7,612,730	556,970,328	
2013	2,016,843,852	497,028,279	14,580,758	2,528,452,889	

## 7 International comparisons

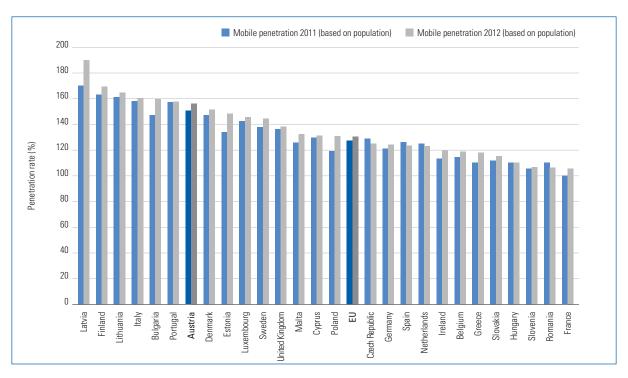


This section contains several comparisons of European mobile and broadband services data. The statistics given here are an extended and more in-depth analysis of the data on the Austrian market discussed in Sections 1 to 6. The data presented in this section are taken mainly from the Digital Agenda Scoreboard of the European Commission. It contains a series of indicators charting the progress made in achieving the goals of the Digital Agenda of the European Commission.

All other graphics in this section show the latest available figures. Regularly updated data and the option to create interactive charts can be found on the website of the Digital Agenda (http://ec.europa.eu/digital-agenda/en/scoreboard).

### Mobile penetration rate (2011 to 2012)

### **➡ MORE SIM CARDS THAN INHABITANTS IN ALL EU COUNTRIES**



Source: RTR, European Commission – Digital Agenda Scoreboard

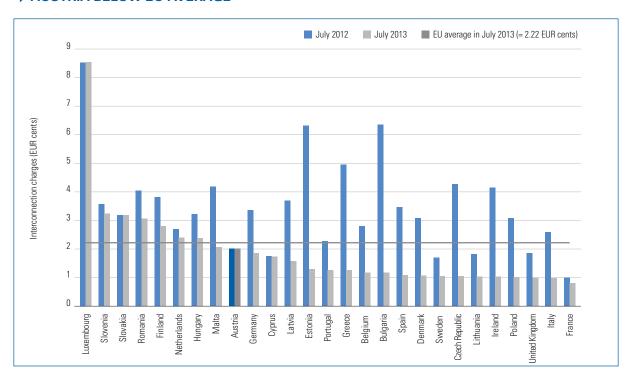
The chart above provides an international comparison of mobile penetration rates (as of January 2011 and January 2012). The penetration rate shown here is based on the number of SIM cards per 100 inhabitants.

The data underlying this chart can be found at the end of the section.

- At 156%, the mobile penetration rate in Austria in January 2012 was well above the EU average.
- In 2012, for the first time there were more SIM cards than inhabitants in all European countries, which is an average penetration rate of 130%.
- In 2012, Latvia was top of the league with a penetration rate of 190%, thus outperforming the long-time leader Finland. The lowest penetration rate (106%) in 2012 was found in France.

# Interconnection charges for termination in mobile networks

### **⇒** AUSTRIA BELOW EU AVERAGE



Source: European Commission – Digital Agenda Scoreboard; BEREC – Integrated Report on Mobile Termination Rates & SMS Termination Rates

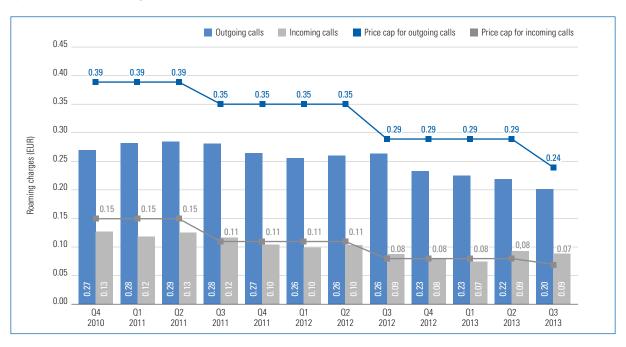
The chart above provides an international comparison of mobile termination charges. Telecommunications service providers charge each other (at the wholesale level) for termination services, that is, the routing of incoming calls to their mobile networks.

The data underlying this chart can be found at the end of the section.

- In mid-2013, interconnection charges for termination in mobile networks in Austria were 2.01 euro cents, as in the previous year. The unweighted EU average was 2.22 euro cents (as compared to 3.57 euro cents in the previous year), the weighted value was 1.46 euro cents per minute. Thus, termination charges were slightly below the EU average.
- In 2013, as in previous years, Luxemburg was the country with the highest termination charges, this time followed by Slovenia and Slovakia.
- In general, between July 2012 and July 2013, in many EU countries termination charges were again reduced, in some cases sharply, due to the implementation of the Recommendation on Termination Rates.

### Average retail roaming rates for calls within EU/EEA

### **⇒** CALLS IN THE EU/EEA AREA GETTING STEADILY CHEAPER



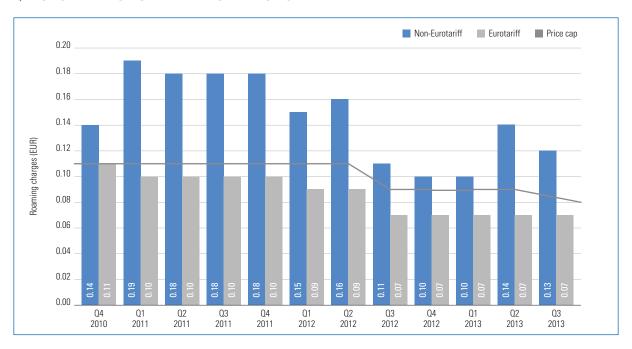
Source: RTR

The chart above shows the average retail roaming rates (excluding VAT) charged to Austrian subscribers for incoming and outgoing calls while roaming within the EU/EEA and the price caps prescribed by the Roaming Regulation.

- Roaming charges continue to decline in Austria. At the end of Q3 2013, the average cost was EUR 0.20 for outgoing calls and EUR 0.09 for incoming calls.
- This means average retail roaming rates for outgoing calls within the EU/EEA were well below the maximum permitted under the Roaming Regulation (EUR 0.24 since Q3 2013); for incoming calls they were EUR 0.02 above the prescribed cap of EUR 0.07.
- The price cap for incoming calls is exceeded because subscribers may choose a roaming tariff that, in contrast to the Eurotariff to be provided by each mobile network operator, is not subject to any price regulation. However, the prescribed limits are complied with, according to the statutory regulations.

# Average retail SMS roaming charges within the EU/EEA

### **⇒** EUROTARIFF SMS WELL BELOW PRICE CAP



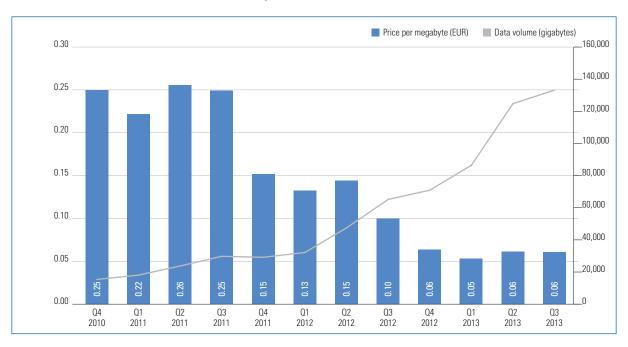
Source: RTR, ERG/BEREC International Roaming Benchmark Data Reports

The chart above shows the average amount (excluding VAT) charged to Austrian and EU/EEA subscribers for sending a text message (SMS) within the EU/EEA, as well as the price cap applicable to roaming text messages since the Roaming Regulation was expanded in the summer of 2009.

- In the summer of 2009, price caps were imposed also on roaming text messages by regulation; in the summer of 2013, they were last reduced to EUR 0.08.
- In Q3 2013, Austrian subscribers paid EUR 0.07 on average for one roaming text message according to the Eurotariff (scope of application of the Roaming Regulation).
- If a subscriber chose a tariff other than the Eurotariff, the average costs for a roaming text message were almost double (EUR 0.13).

# Average retail data roaming rates within the EU/EEA (per megabyte)

### **▶ DATA ROAMING: FALLING CHARGES, INCREASING VOLUME**



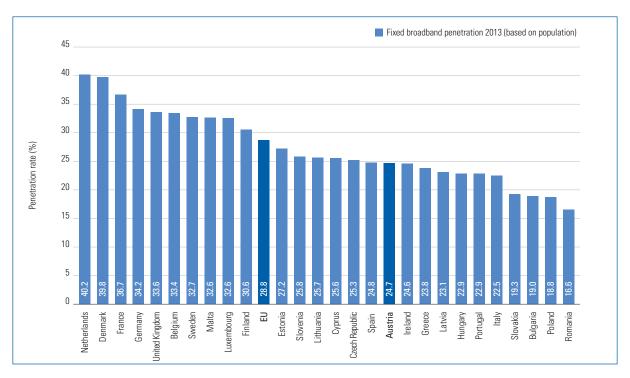
Source: RTR

The chart above shows the average charges per megabyte (excluding VAT) for data roaming within the EU/EEA. A statutory price cap for data roaming came into force on 1 July 2012 (EUR 0.70 maximum excluding VAT per megabyte transmitted). On 1 July 2013 the price cap was lowered to EUR 0.45 (excluding VAT).

- The charges for data roaming have fallen continuously in recent years. In Q3 2013, Austrian subscribers paid EUR 0.06 per megabyte for data roaming.
- The calculation of the average roaming charge per megabyte also captures tariffs not subject to price regulation; therefore, the stipulated price cap is exceeded for the average price. However, the prescribed limits are complied with, according to the statutory regulations.
- In recent years, the data volume used abroad has increased considerably. Since the beginning of the time period depicted above, the data volume has increased almost ninefold.

### Fixed broadband penetration

### **⇒** EVERY FOURTH AUSTRIAN HAS FIXED BROADBAND ACCESS



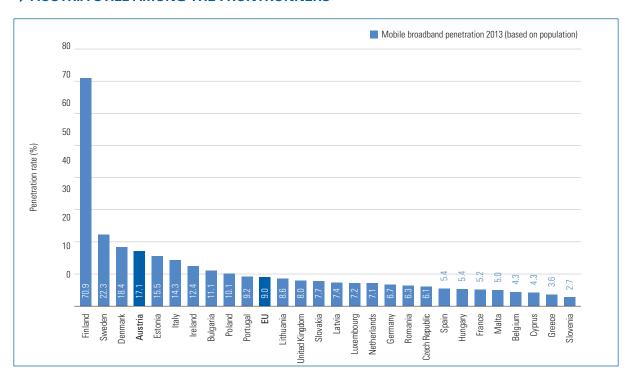
Source: European Commission - Digital Agenda Scoreboard, Broadband

The chart above provides an international comparison of broadband penetration rates based on fixed infrastructure such as DSL, coaxial cable, unbundled line (see Glossary), wireless etc. (as of January 2013). The penetration rate is calculated from the number of broadband connections per 100 inhabitants. Mobile broadband connections are not included in these figures.

- In January 2013, Austria showed a fixed broadband penetration (in percent of the population) of 24.7%, which means that almost every fourth Austrian had fixed broadband access.
- The EU average at the beginning of 2013 was 28.8%; this put Austria just below the average for fixed broadband.
- In 2013, the highest density of fixed broadband connections was reported in the Netherlands (40.2%), closely followed by Denmark (39.8%).
- Relatively few fixed broadband connections in relation to the number of inhabitants were found in Romania (16.6%) and Poland (18.8%).

### Mobile broadband penetration

### **⇒** AUSTRIA STILL AMONG THE FRONTRUNNERS



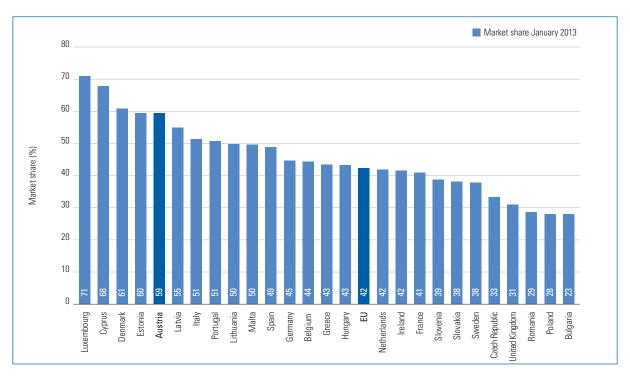
Source: European Commission – Digital Agenda Scoreboard, Broadband

The chart provides an international comparison of mobile broadband penetration rates (as of January 2013). The penetration rate is calculated from the number of mobile broadband connections (pure data tariffs) per 100 inhabitants. Broadband connections on fixed infrastructure (such as DSL, coaxial cable etc.) are not included in these figures.

- While Austria is just below the EU average with regard to the density of fixed broadband connections, the penetration rate for mobile broadband is well above the EU average of 9.0%.
- 17.1% of Austrians had mobile broadband access in 2013. Only Finland, Sweden and Denmark had a higher density of mobile broadband connections.
- Mobile broadband penetration rates were lowest in Slovenia and Greece with only about three mobile broadband connections per 100 inhabitants.

### Incumbent operator's share of broadband market

### **➡ AUSTRIAN INCUMBENT HAS A MARKET SHARE OF 59%**



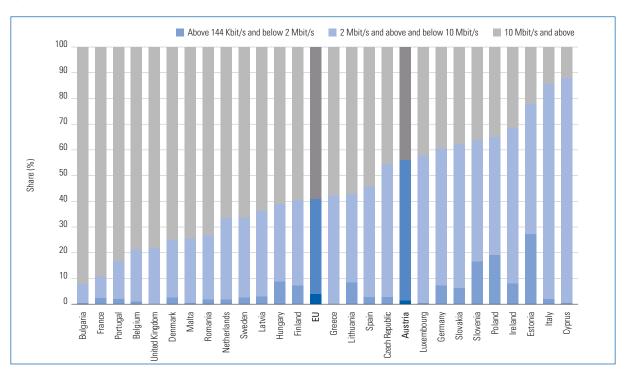
Source: European Commission - Digital Agenda Scoreboard, Electronic Communications Market Indicators

The chart above shows the market shares of the retail broadband market held by national incumbent operators (former monopoly operators) (as of January 2013). It only includes broadband connections based on fixed infrastructure (e.g. DSL, coaxial cable etc.). Mobile broadband connections are not included.

- Not including mobile broadband connections, the market leader and incumbent operator A1 Telekom Austria AG had a market share of 59% in Austria in January 2013.
- In four EU countries, the incumbent's market share was greater: in Estonia, Denmark, Cyprus and Luxemburg.
- The lowest market shares of the incumbent were reported in Bulgaria, Poland and Romania (below 30%) at the beginning of 2013.

### Broadband connections by bandwidth

### **⇒** BANDWIDTH DISTRIBUTION IN EU COUNTRIES VARIES WIDELY



Source: RTR, European Commission - Digital Agenda Scoreboard, Electronic Communications Market Indicators

The chart above gives an international comparison of the different bandwidths of broadband connections (as of January 2013).

The data underlying this chart can be found at the end of the section.

- At the beginning of 2013, only 3.9% of fixed broadband connections still fell into the bandwidth category of less than 2 Mbit/s in the EU on average. At the same time, in Austria fixed broadband connections stood at only 1.4%.
- Across the EU, 37.1% of connections were attributable to the medium bandwidth category (2 Mbit/s to less than 10 Mbit/s), in Austria this figure was at 54.7%, i.e. more than half of the connections fell into this category. Thus, in January 2013, the number of broadband connections with a capacity of less than 10 Mbit/s was above average in Austria.
- On average across all EU countries, 59.0% of fixed broadband connections fell into the category of 10 Mbit/s and greater. In this category, Austria is still below average, only 43.9% of connections were attributable to the highest bandwidth category.

	in %	
Country	Penetration rate 2011	Penetration rate 2012
Latvia	170%	190%
Finland	163%	169%
Lithuania	161%	165%
Italy	158%	160%
Bulgaria	147%	160%
Portugal	157%	158%
Austria	151%	156%
Denmark	147%	152%
Estonia	134%	148%
Luxembourg	143%	146%
Sweden	138%	144%
United Kingdom	136%	138%
Malta	126%	132%
Cyprus	130%	131%
Poland	119%	131%
EU	127%	130%
Czech Republic	129%	125%
Germany	121%	124%
Spain	126%	124%
Netherlands	125%	123%
Ireland	114%	120%
Belgium	114%	119%
Greece	110%	118%
Slovakia	112%	115%
Hungary	110%	110%
Slovenia	106%	107%
Romania	110%	106%
France	100%	106%

### INTERCONNECTION CHARGES FOR TERMINATION IN MOBILE NETWORKS (PAGE 79)

	EUR cents	
Country	July 2012	July 2013
Luxembourg	8.53	8.55
Slovenia	3.57	3.24
Slovakia	3.18	3.18
Romania	4.05	3.07
Finland	3.82	2.80
Netherlands	2.70	2.40
Hungary	3.22	2.39
Malta	4.18	2.07
Austria	2.01	2.01
Germany	3.37	1.85
Cyprus	1.76	1.73
Latvia	3.70	1.57
Estonia	6.32	1.29
Portugal	2.27	1.27
Greece	4.95	1.27
Belgium	2.80	1.18
Bulgaria	6.36	1.18
Spain	3.46	1.09
Denmark	3.09	1.07
Sweden	1.70	1.05
Czech Republic	4.27	1.05
Lithuania	1.82	1.04
Ireland	4.15	1.04
Poland	3.09	1.02
United Kingdom	1.85	1.00
Italy	2.60	0.98
France	1.00	0.80

	in	%	
Country	> 144 Kbit/s to < 2 Mbit/s	≥ 2 Mbit/s to < 10 Mbit/s	≥ 10 Mbit/s
Bulgaria	0.4%	7.4%	92.2%
France	2.3%	8.6%	89.1%
Portugal	2.1%	14.8%	83.1%
Belgium	1.1%	20.3%	78.7%
United Kingdom	0.0%	21.7%	78.3%
Denmark	2.7%	22.6%	74.7%
Malta	0.2%	25.3%	74.5%
Romania	2.0%	24.8%	73.3%
Netherlands	1.9%	31.8%	66.3%
Sweden	2.6%	31.1%	66.3%
Latvia	3.1%	33.2%	63.7%
Hungary	8.8%	30.2%	61.0%
Finland	7.3%	33.0%	59.6%
EU	3.9%	37.1%	59.0%
Greece	0.0%	42.3%	57.7%
Lithuania	8.5%	34.4%	57.1%
Spain	2.8%	43.0%	54.2%
Czech Republic	2.9%	53.3%	46.6%
Austria	1.4%	54.7%	43.9%
Luxembourg	0.3%	57.5%	42.1%
Germany	7.4%	53.3%	39.3%
Slovakia	6.4%	55.7%	37.9%
Slovenia	16.5%	47.4%	36.1%
Poland	19.2%	45.9%	34.9%
Ireland	8.0%	60.6%	31.4%
Estonia	27.3%	50.7%	22.0%
Italy	2.1%	83.7%	14.2%
Cyprus	0.3%	87.7%	12.0%

## 8 | Technology indicators

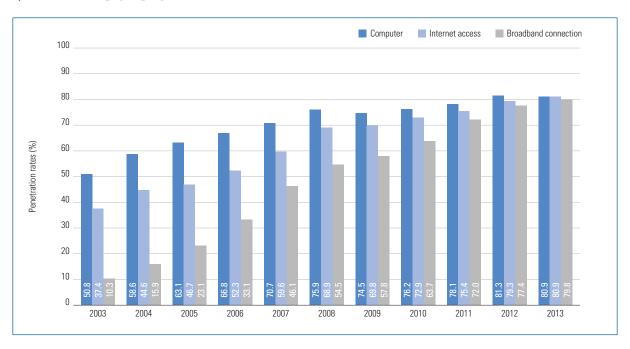


Information and communications systems are the pillars of the knowledge society and form the basis for the interaction of industry, politics and society. Technologies driving and underpinning information and communications are therefore increasingly important. Coupled with this is the need to quantify the developmental levels of societies with respect to the use of information and communications technologies (ICT). The intention is to make comparisons between countries, chart developments over time and create the basis for economic and political decision-makers. One method of responding to all these requirements is to map the relevant technology and communications parameters in the form of indices.

There are various technology indices used internationally with differing methodological approaches and emphasis. This section will discuss the main indices and Austria's performance by international standards.

# Computers, Internet access and broadband in households

### **⇒** FLATTENING OF GROWTH



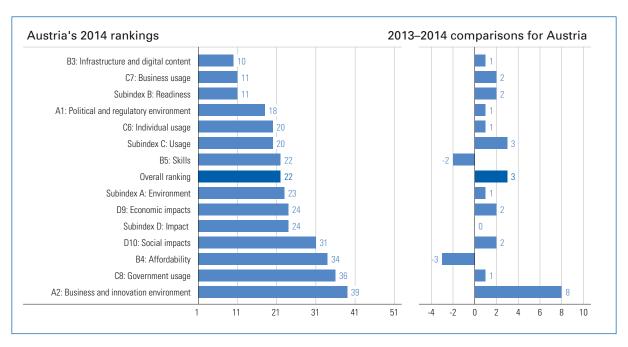
Source: Statistics Austria

This chart shows the percentages of Austrian households with computers, Internet access and a fixed or mobile broadband connection over the years.

- While the penetration of households with computers, Internet access and broadband connections showed widely diverging rates a few years ago, they were almost at the same levels at the end of 2013
- In statistical terms, by now every computer used in households (80.9%) is also connected to the Internet and virtually all of them (98.6%) are connected via broadband.
- With 20% of the population, the proportion of those who seem to persistently refuse computers and the Internet appears to be quite high. At least in the medium term, a certain limit of saturation seems to have been reached, which can be pushed up further only slowly. It remains to be seen if and to what extent new technologies (such as smart TV, i.e. Internet via TV set) will find their way into these household segments, thus giving fresh impetus to Internet penetration.

### Networked Readiness Index — Austria

### **⇒** AUSTRIA DOWN BY THREE PLACES



Source: World Economic Forum, The Global Information Technology Report 2013

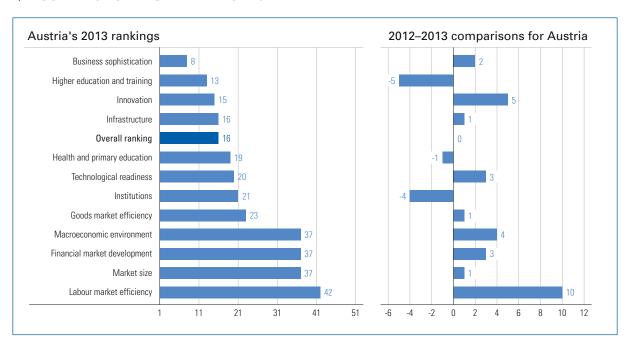
The Networked Readiness Index (NRI) of the World Economic Forum is one of the most important indices that measures the extent to which a country is equipped with and uses information and communications technologies. The NRI 2014 depicts the ICT data of 148 countries based on a total of 54 variables.

The coding in the above chart relates the pillars to the superordinate sub-indices. As an example, the code B3 stands for the 3rd pillar (Infrastructure and digital contents) in sub-index B (Readiness).

- In the current NRI ranking Austria reaches 22nd position worldwide, slipping three places compared with 2013. However, Austria's value, on which the ranking is based, increased minimally to 5.26 (out of a maximum of 7). Therefore, Austria's drop is due to other nations overtaking Austria in the rankings.
- Another reason why Austria fell in the rankings is that it lost ground in 12 out of 14 indicators. Improvements were recorded only in the "Affordability" (rank 34) and "Skills" (rank 22) pillars. Austria's drop is particularly pronounced in the "Business and innovation environment" pillar. Here, Austria only ranks 39th worldwide.
- The rankings of the first six nations remain unchanged compared with the previous year. As in the year before, Finland leads the rankings, followed by Singapore and Sweden. In 2014, Hong Kong is the shooting star, climbing from 14th to 8th place. Denmark, which used to head the rankings in the past, lost ground against the top nations again and is now in 13th position, down by five places.

### Global Competitiveness Index

### **⇒ AUSTRIA UNCHANGED AT PLACE 16**



Source: World Economic Forum, Global Competitiveness Report 2013–2014

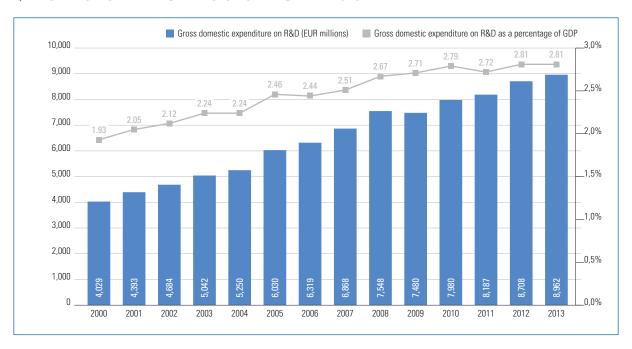
The World Economic Forum defines competitiveness as the set of institutions, policies and production factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that can be earned by an economy. In other words, the greater a country's competitiveness, the more likely it is that it can produce high incomes. Productivity is by definition an input-output ratio, i.e. it is a measure of the best possible output that can be achieved with the existing production factors.

The twelve parameters are measured either by questioning or by observation. The index also takes into account a country's level of development. Accordingly, it distinguishes between factor-driven, efficiency-driven and innovation-driven economies. Developing countries are among the factor-driven economies, while western industrial nations represent innovation-driven economies.

- In the overall ranking for 2013, Austria retains its place in 16th position. In the "Business sophistication" category Austria achieves its best ranking (place 8) even if it dropped two positions compared to 2012. Austria improved by five positions to 13th rank in the "Higher education and training" category. In the "Innovation" category, Austria is still at 16th place despite falling five places.
- There is urgent catching-up demand on individual markets in Austria. In the "Financial market development", "Market size" and, in particular, "Labour market efficiency" categories, Austria lost ground significantly, ranking only at around place 40. In the "Labour market efficiency" category, Austria moved down by even ten positions within one year and now takes only 42nd place.
- The ranking is headed as in the previous two years by Switzerland, followed by Singapore, Finland and Sweden.

# Gross domestic expenditure on R&D in absolute terms and as a proportion of GDP

### **⇒ RESEARCH-SPENDING RATIO UNCHANGED IN 2013**



Source: Statistics Austria

The annual overall estimate of gross domestic expenditure on R&D is derived from the detailed structural data of Statistics Austria obtained from primary-data surveys on R&D and the research-related analyses and evaluations of the budgets of the federal and provincial governments of Austria, also conducted annually. Gross domestic expenditure on R&D (sometimes referred to as "research-spending ratio"), expressed as a percentage of gross domestic product, is an indicator of major political relevance.

- Close to EUR 9 billion (8.962 million) were spent on research and development in Austria in 2013. This corresponds to a share of 2.81% of GDP (EUR 319.15 billion). This proportion remained unchanged compared with the previous year, after it had been continuously rising in the years before.
- The largest share, EUR 3.93 billion (43.9%), came from Austrian businesses, followed by EUR 3.09 billion (34.4%) from the Austrian federal government and EUR 1.36 billion (about 15.2%) from other countries. The remaining expenditure came from the Austrian provinces and other funding sources.

## 9 Glossary



#### Airtime (mobile communications)

Airtime refers to a service which mobile network operators provide for domestic resellers. A reseller is a communications service provider that offers public mobile services to retail customers but does not provide those services using its own network. This includes all mobile service providers (such as resellers or [enhanced] service providers) that do not operate their own communications network – neither a radio network nor a core network – in providing mobile communications services.

#### Bitstream and resale

Bitstream and resale are wholesale products at different levels of the value chain, on the basis of which Internet connections can be provided to the end user. Bitstream access is provided at predefined (regional or national) handover points, the wholesale customer provides Internet connectivity to the end user. In contrast, in the case of resale, Internet connectivity is provided by the wholesale supplier, the wholesale customer acting merely as reseller.

#### **Broadband**

Broadband Internet access or broadband Internet connections are Internet connections (technology neutral) with a download speed of > 144 kbit/s. The Internet connection can also be offered as part of a bundle with other services. The connection can be made in the following ways:

- as a dedicated line (copper-wire pairs in the A1 Telekom Austria network),
- on an unbundled line (see unbundling),
- as virtual unbundling (see virtual unbundling),
- via coaxial cable (cable modem),
- as fixed wireless access, e.g. W-LAN, WiFi, WLL ("fixed" access, not via hot spots) or
- on another infrastructure. This includes e.g. powerline carrier broadband (PWL) and broadband access via satellite (SAT).

### Carrier Pre-Selection and Call-by-Call

Carrier pre-selection (CPS) refers to a pre-set carrier network code (10xx) which routes all of a subscriber's traffic (except for calls to value-added services and public service numbers) via the pre-selected carrier network.

In contrast, call-by-call carrier selection makes it possible to route individual telephone calls via a service provider other than the network which provides the subscriber line. In this case, the subscriber is required to enter the carrier network code (10xx) before each call.

#### **Ethernet services**

Ethernet services with guaranteed bandwidth are lines that provide guaranteed bandwidth between two network termination points, excluding leased lines with Ethernet user interfaces at the user's end (because, for example, on-demand switching functionality is provided).

### Fixed wholesale market for voice telephony

The fixed wholesale market includes three sub-services: origination, termination and transit services.

Origination refers to calls that originate from a fixed network termination point in a carrier's own network. Termination refers to the routing of calls to a fixed network termination point in a carrier's own network. Transit refers to calls between two networks or between two interconnectable exchanges in a network. These services can be provided internally (e.g. as self-provided services, e.g. in an intra-network call) or externally between network operators (e.g. origination to services and carrier network operators or termination from an external network. Origination, termination and transit services are not charged to the customer directly but are settled between network operators (at the wholesale level). The RTR Telecom Monitor reports both revenues and corresponding origination, termination and transit minutes.

#### International roaming

In connection with mobile communications, the term "roaming" refers to the use of a mobile telephone outside the coverage area of one's own network operator (the home network), in which case the mobile phone uses the service of another network (the visited network). In international roaming, the home and visited networks are located in different countries and their coverage areas generally do not overlap.

#### Leased lines

Leased lines provide symmetrical transmission capacity with a guaranteed bandwidth between two points without switching functions. Leased lines may also be referred to as "dedicated lines" or "point-to-point connections".

A distinction is made between retail and wholesale leased lines. Retail leased lines refer to leased lines which are not provided for operators or providers of communications networks or services (i.e. holders of general approvals) but for companies outside the telecommunications sector (e.g. banks, insurance companies, retail stores etc.).

Wholesale leased lines are leased lines provided for other operators or providers of communications networks or services. A distinction is made between trunk segments and terminating segments (see trunk segments and terminating segments).

Where leased lines are concerned, it must be borne in mind that there are often time lags in leased lines markets between revenues and demand, frequently resulting in strong fluctuations between months and, indeed, guarters, caused by the billing of project business, billbacks and credits.

### Mobile broadband

Mobile broadband comprises pure data tariffs, data products not based on a fixed monthly charge and smartphone tariffs.

Pure data tariffs (no voice services or text messaging) are mobile services including at least 250 megabytes in the monthly charges.

Products not based on a fixed monthly charge (e.g. prepaid data products or data/voice products) are products that are used by customers to access the Internet at least one time each quarter. Smartphone tariffs are all contracts for voice and text messaging services that include at least 250 megabytes of data services in the monthly charges and that are used by customers to access the Internet at least one time each quarter.

### **Number porting**

Number porting allows customers to retain their telephone numbers when they switch service providers. The RTR Telecom Monitor only includes the porting procedures/imports of telephone numbers carried out for an operator in one quarter, i.e. SIM cards in the case of mobile operators and subscriber numbers on the fixed network. Reverse portings (e.g. after cancellation by a subscriber) are not considered porting procedures. If the number of a subscriber is ported several times within a quarter (subsequent porting), this is counted separately each time.

### Price index in mobile communications

For the calculation of the monthly prices for different user types RTR uses the tariff data published by the Austrian Chamber of Labour on a monthly basis. Only new tariffs available in the respective month are considered because this allows immediate detection of changes in tariffs (price increases and reductions).

The details about minutes, text messages (SMS) and data services used monthly by the respective user types and about handset subsidies per tariff are supplied by the mobile operators; with regard to information not provided, RTR makes every effort to estimate such information on the basis of available data. Average prices per month are calculated for four different user types. The medium user, high user and power user types also use data services; therefore, for these user types only so-called smartphone tariffs (with included data volume) are applied. A fourth user type, the so-called low user, exclusively relies on voice and text messaging services.

The user types were classified as follows: for each service (voice, SMS, data) the users were ranked according to the frequency of use and divided into four groups of equal size (quartiles). One quartile each represents one user type and the median of the respective quartile is used for the underlying number of used minutes, SMS and megabytes. The user type data are fed into the tariff data by means of the following procedure: the usage values of the previous year are used for the respective tariffs of the current year (e.g. usage 2012 for calculation of the prices per tariff for 2013). It is determined which new tariffs available are the most inexpensive ones for the respective user type per brand. Apart from the monthly base fees and the minutes, SMS and data volume included, the following tariff components are reflected in the calculation: activation charge, SIM/service charge, minimum revenue, where appropriate, as well as the price per minute, SMS and megabyte beyond the included quantities and the handset subsidies (written off over 24 months). An average price from the respective up to five most inexpensive tariffs per brand is calculated. The following brands are reflected: A1, T-Mobile, Drei, Orange, tele.ring, Yesss!, Bob, Ge.org, Red Bull Mobile, S-Budget. Subsequently, the price per brand is weighted with the brand's market share.

The calculated price index is a linked index, where usage is adjusted regularly, in this case annually, similarly to the Consumer Price Index.

#### Residential customers - business customers

"Business customers" are all legal persons and corporations under public or private law, partnerships, registered companies and partnerships under the Civil Code [eingetragene Erwerbsgesellschaften, Gesellschaften bürgerlichen Rechts], as well as natural and legal persons who are entrepreneurs within the meaning of Art. 1 of the Austrian Consumer Protection Act (Federal Law Gazette 140/1979 as amended), including start-up activities within the meaning of Art. 1 Par. 3 leg. cit). In this context, business shall mean any organisation that is intended to be permanent for the purposes of independent commercial activity, even though it may be a non-profit enterprise.

"Residential customers" are all customers not captured by the above definition.

For the distinction between residential customers and business customers all relevant information available shall be used.

### Technical measurement (real minutes)

Real minutes refer to the actual duration of calls made by customers. In contrast, billed call minutes indicate the number of minutes actually charged to those customers. The main factors accounting for the difference between these two figures are the number of free minutes included in the base fee, which carry considerably more weight in mobile networks than in the fixed network, and the billing increment.

### Trunk segments and terminating segments (leased lines and Ethernet services)

At the wholesale level a distinction is made between trunk segments and terminating segments. Trunk segments refer to leased lines or Ethernet services that normally do not extend to the user's network termination point and link interconnection points in the 28 Austrian towns and cities where A1 Telekom has set up network interconnection points to other telecommunications operators. In contrast, terminating segments refer to leased lines or Ethernet services at the wholesale level, which are not to be classified as trunk segments.

### Unbundling

In telecommunications, unbundling refers to the separate provision of specific services which were previously available only in conjunction with other services. For example, the unbundling of sub-scriber lines from fixed network access offered by the incumbent operator gives alternative service providers direct access to the customer without requiring the latter to install the "last mile" them-selves, as they can lease the (naked) subscriber line from the incumbent at a regulated price. Unbundled network elements are made available if the regulatory authority has identified in a market analysis procedure that one company has significant market power and has imposed on it the obligation of granting access to its telecommunications network and unbundled elements thereof.

### Virtual unbundling

According to an official TKK decision, A1 Telekom Austria AG is obliged to offer virtual unbundling in areas where it expands the fibre optic cable network (Next Generation Access - NGA). Virtual unbundling is a wholesale service that enables alternative providers (as in the case of physical unbundling) to offer their own (broadband) products to end users.

### Voice-over-broadband (VoB)

VoB are voice telephony services based on a broadband connection (stand-alone or bundled). VoB does not include voice-over-Internet, where services are provided on the basis of the (public) Internet, but the Internet connection is provided by an independent third party (e.g. Skype).

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The text in this report was prepared with due attention to gender neutrality. Any and all deviations from this policy are exclusively for the sake of improving the text's readability.

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